

7-8 EDWARD VII.

SESSIONAL PAPER No. 19

A. 1908

CANADA

REPORT

OF THE

MINISTER OF PUBLIC WORKS

ON THE

WORKS UNDER HIS CONTROL

FOR THE

FISCAL PERIOD ENDED MARCH 31

1907

*Submitted in Accordance with the Provisions of Chapter 36, Section 37,
of the Revised Statutes of Canada.*

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY

1907

[No. 19—1908.]

*To His Excellency the Right Honourable Sir Albert Henry George, Earl Grey,
G.C.M.G., &c., Governor General of Canada.*

MY LORD,

I have the honour to lay before Your Excellency the Report of the Department of Public Works of Canada, for the fiscal period ended March 31, 1907.

I have the honour to be,

My Lord,

Your Excellency's most obedient servant,

WILLIAM PUGSLEY,

Minister of Public Works.

OTTAWA, November 12, 1907.

CONTENTS

- Part I.—DEPUTY MINISTER'S REPORT.
- “ II.—ACCOUNTANT'S REPORT.
- “ III.—CHIEF ARCHITECT'S REPORT.
- “ IV.—CHIEF ENGINEER'S REPORT.
- “ IV.—APPENDIX 'A,' GEORGIAN BAY SHIP CANAL SURVEY.
- “ V.—GENERAL SUPT. OF TELEGRAPHS' REPORT.
- “ VI.—COLLECTOR OF REVENUE'S REPORT.
- “ VII.—MISCELLANEOUS REPORTS.

ALPHABETICAL INDEX TO REPORT

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
A							
Accountant's report.....							
Actonvale, P.Q., public building.....		8, 30					
Acts of Parliament.....							15
Agassiz, B.C., experimental farm.....		13, 35					
Agency, Public Works, B.C.....		27					
Alberta, public buildings.....		12, 34	36				
Alameda, N.W.T., lands office.....		12, 34					
Albarni-Cape Beale, telegraphs.....		25			31, 56		
Albarni-Clayoquot, telegraphs.....		26			32, 56		
Alexandria, Ont., public building.....		9, 31	17				
Almonte, Ont., public building.....		9, 31					
Amaguadees, N.S.....		15		3			
Amherstburg, Ont., dredging.....		22		129			
" public building.....		9, 31	17				
Amherst, N.S., public building.....		7, 29					
Amherst, P.Q.....		20		83			
Amherst Point, N.S.....		15		4			
Amherst, N.S.....		15		18			
Andersons Cove, N.S.....		15		4			
Andersons Hollow, N.B.....		17		60			
Annapdale, P.E.I.....		17					
Annapolis, N.S., public building.....		7, 29					
" wharf.....		15		5			
Anse-à-Benjamin, P.Q.....				83			
Anse-à-Beaufils, P.Q.....		19					
Anse-à-la-Cave, P.Q.....		19		83			
Anse-à-l'Islet, P.Q.....		19		83			
Anse-aux-Foins, P.Q.....		21		122			
Anse-aux-Gaseons, P.Q.....		19					
Anse-aux-Griffons, P.Q.....		19		84			
Anse-du-Cap, P.Q.....		19					
Anse-St.-Jean, P.Q.....		19		84			
Anticosti-Gaspé, telegraphs.....		26			8, 12, 47		
Antigonish, N.S., public building.....		7, 29	3				
Apple River, N.S.....		15		5			
Arbitrations and awards.....		27					
Architect's reports.....			1				
" staff.....		27					
Arichat, N.S., public building.....		7, 29					
Arisaig, N.S.....		15		6			
Armstrong, N.B.....		18					
Arnprior, Ont., public building.....		10, 31					
Aroostook, N.B.....		18					
Art Gallery, Ottawa.....							19
Ashuapmouchouan, P.Q.....				85			
Assiniboine River, Man.....		23		247			
Ashcroft-Dawson, telegraphs.....		26			34, 60		
Atlin, B.C., public building.....		13, 34					
Avonport, N.S.....		15		6			
Aylmer, P.Q., public building.....		8, 30					
B.							
Babin's Cove, N.S.....		15		6			
Baddeck, N.S., public building.....		7, 29					
" wharf.....		15					
Baie des Bacons, P.Q.....		19		85			
Baie des Peres, P.Q.....		22		128, 204			
Baie St. Paul, P.Q.....		19		85			
Bailey's Brook, N.S.....		15		7			
Banff, Alta.....		33					
Barachois, N.S.....		15					
Barachois de Malbaie, P.Q.....		19					
Barrie, Ont., public building.....		10, 31	18	85			
" wharf.....		22					
Barrington Passage, N.S.....		15		7			
" telegraphs.....		26					
Bassin, P.Q.....		20		85			
Batiscan, P.Q.....				199			
Bathurst, N.B., public building.....		8, 29					
Battery Point, N.S.....		15		8			

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
B							
Battleford, N.W.T., public buildings.....		12, 34					
" bridge.....		25		270			
Baxter Harbour, N.S.....		15		8			
Bay of Fundy, telegraphs.....		26			8, 19, 47		
Bayfield, N.S.....		15		8			
" Ont.....		22		129			
Bay Fortune, P.E.I.....		17		51			
Bear Cove, N.S.....		15		9			
Bear River, N.S., Annapolis Co.....		15		9			
" Yarmouth Co.....		19		199			
Beauharnois, P.Q.....		8					
Beauport, P.Q., Inland Revenue Bdg.....		15					
Beaupre, P.Q.....		22		86			
Beaver River, N.S.....		26			9		
Beaverton, Ont.....		22		205			
Belle-Isle, telegraph.....		26					
Belle River, Ont.....		22		129, 205			
" P.Q.....		22		123			
Belleville, Ont., harbour.....		10, 31	18	205			
" public building.....		18		86, 199			
Belœil, P.Q.....		18		160			
Belyeas, N.B., wharf.....		10, 31	18	199			
Berlin, Ont, public building.....		19		9			
Berthierville, P.Q, harbour.....		8, 30		87			
" public building.....		19					
Bie, P.Q.....		25		12			
Black River, Ont., slides.....		15					
Black Rock, N.S.....		27					
Blain de St. Aubin, Mrs., gratuity.....		22		130			
Blanche River, Ont.....		21		199			
Blanche Shoals, P.Q.....		22					
Blind River, Ont.....		15					
Blue Rock, N.S.....		19		10			
Bon Desir, P.Q.....		19		83			
Bonaventure, P.Q.....		15		10			
Boisdale, N.S.....		19					
Boucherville, P.Q.....		15					
Bourgeois Inlet, N.S.....		10, 31					
Bowmanville, Ont., public building.....		27		130			
Boyd, John, gratuity.....		22		52			
Bracebridge, Ont.....		17					
Brae, P.E.I.....		10, 31	18				
Brampton, Ont., public building.....		12, 33	33				
Brandon, Man., public building.....		10, 31					
Brantford, Ont., public building.....		15		11			
Bretton Cove, N.S.....		10, 31					
Bridgeburg, Ont., public building.....		25		267			
Bridges and roads.....		15		11			
Bridgewater, N.S.....		7					
" public building.....		24		250			
British Columbia, dredging.....				155			
" dredging plant.....				154			
" harbours and rivers.....		13, 35	37		9, 28, 55		
" public buildings.....		26					
" telegraphs.....		15		11			
Broad Cove Marsh, N.S.....		10, 31					
Brockville, Ont., public buildings.....		22		130			
Bronte, Ont.....		25					
Bruce Mines, Ont.....		19		101			
Bryson Bridge.....		8, 30					
Buckingham Junction, P.Q.....		18					
Buckingham, P.Q., public building.....		17		61			
" dredging.....		10					
Buctouche, N.B.....		22		131			
Burford, Ont., armoury.....							
Burlington Channel, Ont.....							
C							
Cable Ship <i>Tyrian</i>		26			9, 72		
" tariff.....					36		
Calgary, Alta., public buildings.....		12, 34	36				
" bridge.....		25					
Campbell's Cove, P.E.I.....		17		52			
Campbell River, B.C.....		24		154			
Campbellton, N.B., public building.....		8, 29					
" " wharf.....		17		62, 63			
" " dredging.....		17		160			
Campobello, N.B.....		18					
Canada Creek, N.S.....		15		12			

SESSIONAL PAPER No. 19

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
C.							
Canning, N.S.				12			
Canne de Roches, P.Q.		19		87			
Canso, N.S., public building			3				
Canton Fahre, P.Q.		19					
Cap à l'Aigle, P.Q.		19		87			
Cap à Corbeaux, P.Q.		19		85			
Cape Breton, N.S., telegraph		26			7, 14, 45		
Cap Chat, P.Q.				87			
Cape Cove, P.Q.		19		88			
Cape Sable Island, N.S.		16					
Cape Tormentine, N.B.		17					
Caplan, P.Q.		19					
Cape Ray telegraph		26			7, 11		
Caraquet, N.B.		17		65			
Caretakers, &c.							33
Carleton, N.B., public building		29					
Carleton, P.Q.		19					
Carleton Place, Ont., public building		10, 31					
Carnduff, Alta., public building		12, 34					
Cattle quarantines		12					
Cayuga, Ont., public building		10, 31					
Cedars wharf, N.B.		18		160			
Cement laboratory		27		271			
Chambly Basin, P.Q.		19		199			
Challenger, steamer		27					
Chambord, P.Q.		15		88			
Charles's Cove, N.S.		15		13			
Chance Harbour, N.B.		17		66			
Charlottetown, P. E. I., public building		7, 29					
ry, wharf, dredging		17		161			
Chateauguay, P.Q.		19		88, 200			
Charham, N.B., public building		8, 29					
Chatham, Ont., public building		10, 31	18				
Chaudiere bridges, Ottawa		25		267			
Cheticamp, N.S.		15		13			
Chicoutimi, P.Q., public building	6	8	9				
" wharf		19		88			
" telegraph					21, 49		
" dredging		19		200			
Chief Accountant, report		1					
" Architect, report			1				
" staff		27					
" Engineer, report	9			1			
" staff		27					
" Officers							23
China Point, P. E. I.		17		53			
Chockfish, N.B.		17		66			
Church Point, N.S.		15		13			
Chutes Cove, N.S.		15		22			
Clarke City, P.Q.		19					
Clerk of works, salaries		14					
Clifton, N.B.		17		81			
Clinton, Ont., post office		10, 31	19				
Coaticook, P.Q., public building		8, 30	9				
Cobourg, Ont., public buildings		10, 31					
harbour		22		131			
Cocagne, N.B.		17		66			
Colborne, Ont.				131			
Coleraine, P.Q.		20					
Colchester, Ont.		22		131			
Collector of Revenue	10				1		
Collection of slides and booms dues		25					
Collingwood, Ont.		22		132, 205			
" graving dock		22					
Columbia River, B.C.		24		154, 155			
Colwell's Creek, N.B.		18					
Colwood, B.C.		35					
Como, P.Q.		19		200			
Contracts let, &c.							6
Coquitlam River, B.C.		24		155			
Corner of the Beach, P.Q.		19					
Cornwall, Ont., public building		10, 31					
Correspondence, official	10						41
Côte Ste. Catherine, P.Q.		19		90			
Coulouze River, P.Q.		25					
Country Harbour, N.S.		15		14			
Courtney River, B.C.		24		156			
Cow Bay, N.S.		15		14			
Craven Dam, N.W.T.				153			
Crapaud, P. E. I.		17		60, 161			

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
C.							
Cribbons Point, N.S.		15					
Crooked Channel, N.S.		15		15			
Cross Lake, N.B.		18					
Cross Point, P.Q.		19					
Culloden, N.S.		15					
Cumberland, Ont.		22		132			
Cumberland, B.C., public building		13					
D.							
Dalhousie, N.B.		17		67			
public building		8, 29		6			
Dartmouth, N.S., public building		7, 29					
Dauphin, Man., public building		12, 34					
Davidson, N.W.T., immigration building		34					
Davis, J. A., gratuity		27					
Dawson, Y.T., public buildings		35	40				
telegraph					34, 60		
Deep Waterways Commission		27					
Delaps Cove, N.S.		15		16			
Delhaven, N.S.		16					
Delisle, P.Q.		20					
Deputy Minister's report	1						
Descentes des Femmes, P.Q.		20		99			
Deschambault, P.Q.		19		90			
Desjardins, P.Q.		19		91			
Desjardins, M., gratuity		27					
Deseronto, Ont.		31					
Devereux, John, gratuity		27					
Digby, N.S.		15		17			
public building		7, 29					
Dipper Harbour, N.B.		17		67			
D'Israeli, P.Q.		19		91			
Doucet's Landing, P.Q.		19		200			
Douglastown, N.B.		19		68			
Douglastown, P.Q.		19		91			
Draper, J. M., gratuity		27					
Dredging and plant	8	25		162			
Dredging, British Columbia		25		250			
" Manitoba		25		247			
" Maritime provinces		25		159			
" New Brunswick				160			
" Nova Scotia				159			
" Ontario		25		205			
" operations	7	28		159			
" plant, names, &c.				170, 253			
" Prince Edward Island		17		161			
" Quebec		25		199			
Drumhead, N.S.		15		17			
Drummondville, P.Q., public building		8, 29	10	259			
Dry docks							
Dundas, Ont., public building		10, 31					
Dundee, P.Q., custom house		8, 30	10				
Durham, N.B.		17		68			
E							
East Templeton, P.Q.		19					
East Selkirk, Man., immigration building		12					
Eboulements, P.Q.		20		98			
Echo Bay, Ont.		22					
Edmonton, Alta., bridge		25		270			
public buildings		12, 34	36				
telegraphs					27, 54		
Edmundston, N.B.		18					
Eel Cove, N.S.		15		24			
Elkhorn, Man., immigration building		34					
Employees, graving docks							31
salaries of		27					
slides and booms							27
Engineers, firemen							33
Engineer (chief, report				1			
" (staff, salaries, &c.		27					
English River, P.Q.		19		91			
Escoumains, P.Q.				99			
Escuminac, N.B., telegraph		26			20		
Eskasoni, N.S.				18			
Esquimalt, B.C., graving dock	5	24		259		6, 14	
custom house		35					
Evansdale, N.B.		18		161			
Expenditure	3	28		185			

SESSIONAL PAPER No. 19

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
F							
Faber, P.Q.				92			
Fassett, P.Q.		19					
Father Point, P.Q.		19		92			
" telegraphs.		26			10		
Farnham, P.Q., public building.		8, 30					
Falconwood, P.E.I.		7		161			
Feltzen, N. S.		15					
Fernie, B.C., post office.		13	37				
Fort Dufferin, N.B.				68			
Fort Lawrence, N.S.		15		18			
Fort William, Ont.		22	19	141			
" public buildings.		10, 32					
Fraser River, B.C.		24		156			
Fraserville, P.Q., public building.		8, 30	10				
Fredericton, N.B., public buildings.		8, 29	6, 7				
Freeport, N.S.		15					
Frudes Point, N.S.		15		19			
G							
Gabarus, N.S.		15		19			
Galt, Ont., public building.		10, 32					
Gananogue, Ont., public building.		10, 32					
Gatineau River, slides.		25					
" Point, P.Q.		19		93			
Georgeville, N.S.		15		19			
Georgian Bay Canal, survey.	9	27		273			
Glace Bay, N.S., public building.		7					
Goderien, Ont., dredging, &c.		22		133, 205			
" public building.		10, 32	19				
Godfroye River, P.Q.				200			
Golden Windermere, B.C., telegraphs.		26			32, 56		
Goose Bay, N.S.		15		20			
Graham, P.Q.		19		93			
Graham's Bay, Ont.		22					
" Pond, P.E.I.		17		53			
Granby, P.Q., public building.		8, 30					
Grand Bend, Ont.		22		134			
Grandes Bergeronnes, P.Q.		19		94			
Grand Decharge, P. Q.				96			
Grande Entrée, P.Q.		20					
Grand Falls, N.B.		18		78			
Grand Mèchins, P.Q.		19					
Grand Narrows, N.S.		15		20			
Grand Rivière, de Beauport, P.Q.		19					
Grande Rivière de Gaspé, P.Q.		19		94			
Grand Vallée, P.Q.		19					
Gratuities paid.		27					
Graving docks.						6	
Graving dock officials.							31
Great Salmon River, N.B.		17		69			
Green River, N.B.				79			
Green River, P.Q.				116			
Grenier, N.B.		18		78			
Grindstone, P.Q.		20	94				
Grondines, P.Q.		19	95				
Grosse Isle, P.Q.		19	10				
" quarantine.		8, 30	10, 11				
" telegraphs.		26			9, 20, 50		
Guelph, Ont., public buildings.		10, 32	19				
Guysboro', N.S., public building.		7, 29					
Gypsumville, Man.		23					
H							
Habitant River, N. S.		15					
Haileybury, Ont.		22		134			
Halifax, N.S., public buildings.		7, 29	3, 4				
" graving, dock.		15					
Half Island Cove, N.S.				21			
Halls Harbour, N.S.		15		21			
Hamilton, Ont.,		22		135, 206			
" public buildings.		10, 32	19, 20				
Hamstead, N.B.		18		161			
Hampton, N.S.		15		22			
Harbours and rivers generally.	7	15, 24		4			
Hawkesbury, Ont., public building.		10, 32					
" dredging.		22					
Head River, Ont.		22					
Heating public buildings.		29					

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
H.							
Hiltz Narrows, N.S.		15		22			
Higgin's Shore, P.E.I.		17		54			
Hochelaga, P.Q., public building.		9, 30	13				
Honora, Ont.		22		135			
Hopewell Cape, N.B.		17		69			
Hull, P.Q., wharf.		19					
public building.		8, 30					
Humboldt, N.W.T., land office.		12					
Hunt's Point, N.S.		15					
Hurd's Point, P.E.I.		17		54			
Hutchin's Wharf, N.B.		18					
I							
Iberville, P.Q.		19		95			
public building.		8	11				
Indian Head, N.W.T., experimental farm.		13, 34					
Indian Harbour, N.S.				23			
Ingersoll, Ont., public building.		10, 32	20				
Inverness, N.S., public buildings.		15	5				
Iona, N.S.		15		23			
Iroquois River, N.B.		18		79			
Island of Orleans, telegraphs.					9, 20, 50		
Isle aux Coudres, telegraph.		26					
Isle aux Foin, P. Q.		19					
Isle aux Noix, P.Q.		19		124			
Isle d'Alma, P.Q.		20					
Isle Perrot, P.Q.		19		96			
Isle Verte, P.Q.		19		95			
J							
Janvins Island, N.S.		15		24			
Jeddore (oyster pond), N.S.		15					
Jeannette's Creek, Ont., wharf		22		150			
Jersey Cove, N.S.		15		24			
Jersey Cove, P.Q.		19		97			
Joggins Mines, N.S.		15		24			
Joliette, P.Q., public building.		8, 30	11				
Jordan Harbour, Ont.		22		135			
Judique, N.S.		15		25			
K							
Kamistiquia River, Ont.	8	22		206			
Kamloops, B.C., public buildings.		13	37				
Kamloops-Nicola, telegraphs.		26			28, 58		
Kamouraska, P.Q.		21		119			
Kelley's Cove, N.S.		15		25			
Kennedy Lake, B.C.		24		250			
Kenora, Ont., public building.		10, 32					
Kentville, N.S., public building.		7, 29	7				
Kiers Shore, P.E.I.		17		54			
Kincardine, Ont.		22		135			
Kingston, Ont., public buildings.		10, 32	20, 21				
graving dock.		5		25		6, 16	
Kingsville, Ont.		22		136, 206			
Knowlton Landing, P.Q.				97			
Kouchiguan, P.Q.				123			
Kootenay River, B.C.				156			
L							
Labille's Point, N.S.		15					
Lac a Beaulieu, P.Q.		19		97			
Lachine, P.Q., public building.		8, 30					
Lachine, P.Q., wharf.				97			
Ladysmith, B.C., post office.		13					
Ladysmith, B.C.		24		157			
La Fondrie, P.Q.		20					
La Have River, N.S.		15		11			
Lake Francis, Man.		23					
Lake Manitoba, Man.				247			
Lake Nominigue, P.Q.		20					
La Petite Peribonka, P.Q.				98, 248			
Lake Winnipeg.		24		248			
Lake Winnipegosis, Man.		24		248			
Lakeport, Ont.				134			
Lake St. Francis, P.Q.		20		98			
Lake St. John, P.Q.		20		200			

SESSIONAL PAPER No. 19

Name of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
L							
Lawlers Isld, quarantine.....		7					14
Lands leased, &c.....		25		270			
Langevin bridge, Calgary.....		17		54			
Lamberts Pier, P.E.I.....		20					
Lambton, P.Q.....		19					
Lanorie, P.Q.....		19		83			
L'Anse à Islet, P.Q.....		21		122			
L'Anse aux Foins, P.Q.....		20					
Laprairie, P.Q.....		8, 30					
Laprairie, P.Q., public building.....		15					
La Have Islds, N.S.....		15		26			
L'Ardoise, N.S.....		16		27			
Larry's River, N.S.....		20		201			
L'Assomption, P.Q., public building.....		8, 30					
Last Mountain, N.W.T.....		24		153			
Lauriers bridge, Ottawa.....		25					
Lavaltrie, P.Q.....		20					
Leamington, Ont.....		22		136			
Leased properties.....						6	14
Les Cuisses d'Alma, P.Q.....				98			
Les Eboulements, P.Q.....		20		98			
Lesser Slave River and Lake, N.W.T.....		24					
Les Ecureuils, P.Q.....		20		99			
Les Escoumains, P.Q.....		20		99			
Le Tableau, P.Q.....		20		99			
Lethbridge, N.W.T., public buildings.....		13, 34					
Letters, departmental, sent and received.....							41
Levis, P.Q., graving dock.....	5	20		259		6	
" public buildings.....	6	8	11				
Lighting public buildings.....		29					
L'Île d'Alma, P.Q.....		20					
Lindsay, Ont., public buildings.....		10, 32					
Litchfield, N.S.....		16		27			
Little Brook, N.S.....		20		28			
Little Cape, P.Q.....		20					
Little Current, Ont.....		22		136, 206			
Little Forks, N.B.....		18					
Little Judique, N.S.....		16					
Little Lake Escoumains, P.Q.....		20					
Little River Falls, N.B.....		18		79			
Little Salmon River, N.B.....		17		70			
Liverpool, N.S.....		16		29			
" public building.....		7, 29					
Livingston's Cove, N.S.....		16		29			
Lloydminster, N.W.T.....		13, 34		19			
Lockport Station, N.S.....		13					
Longueuil, P.Q., public building.....		8, 30	12				
" wharf.....		20		100			
London, Ont., public buildings.....		10, 32	21				
Lord's Cove, N.B.....		18		70			
Lotbinière, P.Q.....		20		101			
Louiseville, P.Q.....				201			
Lower d'Escousse, N.S.....		16		38			
Lower Lincoln, N.B.....		18		77			
Lower St. Lawrence piers, P.Q.....		20					
Lunenburg, N.S., public buildings.....		7, 29	5				
Mc							
McGregor's Creek, Ont.....		22		138			
McKay's Point, N.S.....		15		25			
McNair's Cove, N.S.....		16		29			
M							
Mabou Bridge, N.S.....				30			
" Harbour, N.S.....		16		30, 159			
Macleod, Alta, public buildings.....		13, 34					
Madawaska River, slide.....		25					
Magdalen Island, P.Q.....		20		83			
" telegraphs.....		26			8, 13		
Magog, P.Q., public buildings.....		8					
Maguasha, P.Q.....		20					
Magnetawan, Ont.....				136			
Main-a-Dieu, N.S.....		16					
Magnet Channel, Ont.....		22		142			
Malgash, N.S.....		16		31			
Malbata, P.Q.....		20		104			
Mallorytown, Ont.....		22		137			

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
M.							
Manitoba, dredging.....				247			
" public buildings.....		12, 33	33				
" harbours and rivers.....		23		152			
Main River, St. John, N.B.....				78			
Maintou Rapids, Man.....				152			
Marble Mountain, N.S.....		16					
Margaree Harbour, N.S.....		16		31			
" Island, N.S.....		16		32			
Maritime Provinces, dredging.....				162			
" telegraphs.....					7, 12		
Marshall's Cove, N.S.....		16		42			
Marsouin, P. Q.....		20					
Marysville, N. B., public building.....		8, 29	7				
Maskinonge, P. Q.....				201			
Masson, P. Q.....		20		101			
Matchedash Bay, Ont.....		22		206			
Meaford, Ont.....		22		137, 207			
Medicine Hat, N. W. T., public buildings.....		13, 34	35				
Meteghan Cove, N.S.....		16					
" River, N.S.....		16		33			
Middle Country Harbar, N.S.....		16		33			
" River Dam, N.S.....		16		34			
Midland, Ont.....		22		137, 207			
Mill Cove, N.S.....		16					
Mill Creek, N.S.....		16		33			
Millers Wharf, N.B.....		18					
Mille Vaches, P. Q.....		20		102			
Mitchells Bay, Ont.....		23		138, 207			
Miminingash, P. E. I.....		17		55			
Minnedosa, Man.....		34					
Miscellaneous.....	10	27					
Miscou, N. B.....		18		70			
Mispec, N. B.....		18					
Mistook, P. Q.....		20		102			
Mistassini, P. Q.....				102			
Moncton, N. B., public building.....		8, 29	7				
Monetville, Ont.....		23		138			
Montague, P. E. I., public building.....		7, 29					
Mont Louis, P. Q.....		20					
Montmagny, P. Q., public building.....	6	8, 30	12				
" wharf.....		20		103			
Montmorency Falls, P. Q.....		20					
Montreal, P. Q., public buildings.....		8, 30	12, 13				
" harbour.....	7	20		103			
Moosejaw, Alta., public buildings.....		13, 35	35				
" telegraphs.....		26			27		
Moosomin, Alta., public buildings.....		13, 35					
Mossy River, Man.....				248			
Murray Bay, P. Q.....		20		104			
" Harbour, P. E. I.....		17		55			
N							
Names of chief officers.....							23
Nanaimo, B. C., public building.....		13, 34	38				
Nanaimo-Comox, telegraph.....		26			31, 56		
Nappan, N. S., experimental farm.....		7, 29					
Napanee, Ont., public building.....		10, 32					
Narrows, Man.....				152			
National Art Gallery, Ottawa.....		11, 32					19
Negro Point, N. B.....				71			
Nelson, B. C., public buildings.....		13, 35	38				
Neepawa, Man., public building.....		12					
New Brunswick, dredging.....		17		60, 160			
" harbours.....		17		60			
" public buildings.....		8, 29					
" telegraphs.....		26			19, 48		
New Campbellton, N. S.....		16		34			
New Carlisle, P. Q.....		20					
Newcastle, N. B., public building.....		8, 29					
" District, slides.....	4					5, 13	
" Ont.....		23					
Newfoundland, telegraph.....		26			7		
New Glasgow, N. S., public building.....		7, 29	5				
New Harbour, N. S.....		16		35			
New Liskeard, Ont.....		23		207			
New London, P. E. I.....		17		56			
Newport, P. Q.....		20		104			
New Westminster, B. C., public buildings.....		13, 35	38				
Niagara Falls, Ont., public buildings.....		10, 32	21				

SESSIONAL PAPER No. 19

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
N							
Nicola-Penticton, B. C., telegraph.....		26			28, 58		
Nicolet, P. Q., public building.....		9	14				
" " wharf.....		20		201			
Nigger Island, Ont.....		23		201			
Nominingue, P. Q., immigration building.....		9	14				
North Bay, Ont., public building.....		20	21				
North Cove, P. Q.....		17					
North Cardigan, P.E.I.....		16		36			
North East Harbour, N. S.....		18		72			
North Head, N. B.....		23		207			
Northport, Ont.....		16		159			
North Pond, N. S.....		24		154			
North Saskatchewan River.....		26			8, 21, 48		
North Shore St. Lawrence, telegraphs.....		7, 29					
North Sydney, N. S., public building.....		24		157			
North Thompson River, B. C.....		18					
Northwest Branch, N. B.....							
Northwest Miramichi, N. B.....		25		73			
Northwest Territories, bridges.....		24		270			
" " rivers.....		33		153			
" " public buildings.....		26			9, 26, 52		
" " telegraphs.....		20		104			
Notre Dame du Portage, P. Q.....		20		201			
Notre Dame de Pierreville, P. Q.....		17		3, 159			
Nova Scotia, dredging.....		15		3			
" " harbours.....		7, 29	3				
" " public buildings.....		26			14, 45		
" " telegraphs.....							
O							
Oak Point, N. B.....		18		73, 161			
Officers of the department.....							23
" " employed on graving docks.....							31
" " " on slides and booms.....							27
Official correspondence.....							41
Oka, P. Q.....		20		201			
Oliphant, Ont.....		23		139			
Ontario, bridges.....		25		267			
" " dredging.....		22		205			
" " harbours.....		9, 31	17	129			
" " public buildings.....		26			9, 25, 51		
" " telegraphs.....		10, 32	22				
Orangeville, Ont., public buildings.....		10, 32	22				
Orillia, Ont., public building.....		10, 32	22				
" " harbour.....		23					
Oshawa, Ont., public building.....		10, 32	22				
Osoyoos, B. C. post office.....		13					
Otonabee River, Ont.....		23		139			
Ottawa, Ont., public buildings.....		10, 32	22				
" " parliament building addition.....		11	27				
" " art gallery.....		11, 32					19
" " buildings and grounds.....		11	25, 27				
" " government house.....		11	24				
" " experimental farm.....		10, 32					
" " Major's Hill park.....		10, 32					
" " new departmental building.....	6	11					
" " observatory.....		10, 32	22				
" " post office.....		11, 32	23				
" " printing bureau.....		10, 32	28				
" " river, dredging.....		23		207			
" " slides and booms.....	4	25		261		3	
" " roads and bridges.....		25		267			
" " streets, repairs.....		23					
Owen Sound, Ont.....		23		139, 207			
" " post office.....		11					
P							
Pacific cable tariff.....					37		
Papineauville, P. Q.....		20		201			
Paris, Ont., public building.....		32					
Parker's Cove, N. S.....		16		36			
Park Hill, Ont., public building.....		11					
Parliament buildings, Ottawa.....	9, 31	17					
Parr, J. A., gratuity.....		27					
Parrsboro', N. S.....		16		37			
Parry Sound, Ont.....		23		139			
Parry Sound Island, Ont.....		23					

Names of Places, &c.	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7
	Page.	Page.	Page.	Page.	Page.	Page.	Page.
P							
Partridge Island, N.B.				73			
" " quarantine.		8	8				
" " wharf.				73			
Paspebiac, P.Q.		20					
Peggy's Cove, N.S.		16		37			
Peel Head, P.Q.		20					
Pelee Island, Ont., telegraph.		26			9, 25, 51		
Pembroke, Ont.		23		140			
" " public building.	11, 33						
Penetanguishene, Ont.		23		140, 208			
Pereé, P.Q.		20		105			
Pereaux, N.S.		16		37			
Peribonka, P.Q., immigration building.		9, 31					
" " dredging.		20		85			
Peterborough, Ont., public buildings.	11, 33						
Petewawa, River, slides.		25					
Petites Bergeronnes, P.Q.		20		99			
Petite Cap, P.Q.				105			
Petite Rivière, N.S.		16		38			
Petit Rocher, N.B.		18		74			
Petrolia, Ont., public building.	11, 34		31				
Philipsburg, P.Q.				105			
Phinney's Cove, N.S.		16					
Pictou, Ont., public building.	11, 33						
Pictou, N.S., harbour.		16		160			
Pictou N.S., I.C.R. wharf.		16		159			
Pictou, N.S., public buildings.	7, 29		6				
Pierreville, P.Q.		20					
Pinette, P.E.I.		17		56			
Pleasant Bay, N.S.		16		38			
Pointe à Elie, P.Q.		20		105			
Pointe aux Esquimaux, P.Q.		20		106			
Pointe aux Tremblés, P.Q.		20					
Pointe du Chêne, N.B.		18		74			
Pointe Claire, P.Q.		20					
Point Edward, Ont.		23		141, 208			
Pointe aux Péres, P.Q.		19		92			
Pointe à Valois, P.Q.		20		106			
Pointe Prim, P.E.I.		17					
Pointe St. Pierre, P.Q.		20					
Poirierville, N.S.		16		38			
Pond Creek Bridge.				268			
Portage du Fort, P.Q., bridge.		25					
Portage la Prairie, Man., public building.	12, 34		34				
Porter's Lake, N.S.		16		39			
Port Arthur, Ont., public buildings.	11, 33		31				
Port Bruce, Ont.		23		141, 208			
Port Burwell, Ont.		23		142, 208			
Port Colborne, Ont.		23		208			
" " public building.	11, 33		31	142			
Port Daniel, P.Q.		20					
Port Dover, Ont.		23		143			
Port Elgin, Ont.		23		143, 208			
Port George, N.S.		16		40			
Port Greville, N.S.		16					
Port Hood, N.S.		16		40, 160			
Port Hood, N.S., wharf.		16		41			
Port Hope, Ont., public building.	11, 33						
Port la Tour, N.S.		23		144			
Port Lorne, N.S.		16		41			
Port Maitland, Ont.		16		42			
Port Morien, N.S.		23					
Port Neuf, N.S.		15		14			
Portneuf, P.Q.		21		107			
Port Selkirk, P.E.I.		17		57			
Port Stanley, Ont.		23		144, 208			
Port St. Francis, P.Q.		21					
Pownal, P.E.I.		17		161			
Prescott, Ont., public buildings.	11, 33						
Prince Albert, Sask., public buildings.	13, 34						
Prince Edward Island, dredging.		17		51, 161			
" " harbours.		17		159, 161			
" " public buildings.		7, 29					
" " telegraphs.		26					
Printing Bureau.		31					
Printing and stationery.		31					
Properties purchased and sold.							

Names of Places &c.

Names of Places &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
P.							
Public buildings, Alberta.....		12	36				
British Columbia.....		13	37				
Manitoba.....		12	35				
New Brunswick.....		8	6				
N.W.T.....		12					
Nova Scotia.....		7	3				
Ontario.....		9	17				
P.E.I.....		7	9				
Quebec.....		8	9				
Saskatchewan.....		12	35				
Yukon Territory.....		14	40				
generally.....	5						
Public Works Agency, B.C.....		21					
Pugwash, N.S.....		16		42			
Purcell, P., gratuity.....		27					
Q							
Qu'Appelle N.W.T., telegraph.....		26			26		
Quebec, dredging.....		19		199, 201			
bridges.....		25					
harbours.....		19		107, 201			
public buildings.....		8, 30	9		8, 20, 48		
telegraphs.....		3, 31	14, 15				
City, public buildings.....		21					
" wharf.....							
R							
Rainy River, Ont.....		23					
Rama, Ont.....		23					
Ravs Creek, N.S.....		16		43			
Recapitulation.....		28					
Red Deer, Alta., public buildings.....	13, 34						
Red River, Man.....		24		248			
Regina, Sask., public buildings.....	13, 34	36					
Rented buildings, Ottawa.....		33	23, 28				
			30				
Rents, received.....						6	
paid.....		32					
Repentigny, P.Q.....		21		108			
Revenue.....	4					3	
Richibucto, N.B., public building.....		8, 30					
		18		75			
Richmond, P.Q., public building.....		9, 31	16				
ice pier.....				114			
Rideau Hall, Ottawa.....		11	24				
Rigaud, P.Q.....		21	202, 203				
Riley's Brook, N.B.....		18					
Rimouski, P.Q., wharf.....		21		108			
				202			
public building.....		9, 31					
Rivière-à-la-Pipe, P.Q.....		21		109			
Rivière Ashouapmouichouan, P.Q.....		21					
Rivière aux Renards, P.Q.....		21		110			
Rivière Bas de Soie, P.Q.....		21					
Rivière Batiscan, P.Q.....		21					
Rivière Blanche, P.Q.....		21		110			
Rivière Bourgeois, N.S.....		15		43			
Rivière Châteauguay, P.Q.....		19		88, 200			
Rivière des Vases, P.Q.....		21					
Rivière des Quinze, P.Q.....				110			
Rivière du Lièvre, P.Q.....		21		111, 202			
slides.....		25					
Rivière du Loup (en bas), P.Q.....		21	10	112, 202			
Rivière du Moulin, P.Q.....		20					
(en haut), P.Q.....		21					
Rivière Godfroy, P.Q.....		21		112			
Rivière Hébert, N.S.....		16					
Rivière Jésus, P.Q.....		21		113, 202			
Rivière Maskinongé, P.Q.....		21					
River Miramichi, N.B.....		18		73			
River Nicolet, P.Q.....				113			
River Ottonabee, Ont.....		23					
River Ottawa, Ont.....		21		207			
Rivière Ouella, P.Q.....		21		113, 203			
Rivière Richelieu, P.Q.....		21		114			
slides.....		25					
Rivière Saguenay v. slides.....		25		266		7, 13	
Rivière Saguenay, P.Q.....		21					

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
R.							
River St. Francis.....		21		203			
Rivière St. Francois, P.Q.....				114			
River St. John, N.B.....		18		76, 78			
Rivière St. Louis, P.Q.....		21		115			
Rivière St. Maurice, P.Q.....		21		265			
" " slide.....		25				4, 12	
River Thames, Ont.....				145			
Rivière Verte, P.Q.....		21		116			
Roads and bridges.....		25		267			
Roberval, P.Q.....		20		116			
" immigration building.....		9, 31					
Robinson's Island, P.E.I.....				57			
Roche's Point, Ont.....		23		145			
Rockland, Ont.....		23		209			
Rondeau, Ont.....		23		146, 209			
Rosseau, Ont.....		23		209			
Rossland, B.C., public buildings.....		13, 35					
Rosthern, N.W.T., immigration building.....		35					
Round Hill, N.S.....		16		44			
Ruisseau Pelletier, P.Q.....		20					
Rustico, P.E.I.....		17		57			
Ryder, W. E., gratuity.....		27					
St.							
St. Alexis, P.Q.....		21		118			
St. Alphonse de Bagotville, P.Q.....		21					
St. André de Kamouraska, P.Q.....		21		119			
St. Andrews, P.Q.....		21		203			
" N.B.....		18		161			
St. Andrews Rapids, Man.....				153			
St. Anicet, P.Q.....		21		118			
Ste. Anne de Beaupre, P.Q.....				86			
Ste. Anne de Chicoutimi, P.Q.....		21					
Ste. Anne des Monts, P.Q.....		21		119			
Ste. Anne de Sorel, P.Q.....				120			
Ste. Anne du Saguenay, P.Q.....				120			
St. Boniface, Man., public building.....		12	34				
Ste. Blaise, P.Q.....		21					
St. Catharines, Ont., public buildings.....		11, 33					
St. Charles Borromeo, P.Q.....		21		121			
St. Cœur de Marie, P.Q.....		20		102			
St. Cunégonde, P.Q., post office.....		9, 30					
St. Edouard des Méchins.....				121			
St. Denis, P.Q.....		21		203			
Ste. Emélie, P.Q.....		21					
St. Eustache (Is. Jesus), P.Q.....		9		113			
St. Eustache, P.Q., post office.....							
St. Felicien, P.Q.....		21		122			
St. Fidele, P.Q.....		21					
St. Francis River, N.B.....				79			
" P.Q.....				114			
St. Francois de Sales, P.Q.....		21					
St. Francois, I. O., P.Q.....		21		122			
St. Fulgence, P.Q.....		21		122			
St. Gédéon, P.Q.....				123			
St. Gédéon Island, P.Q.....				123			
St. Henri, P.Q., public building.....		9, 31		203			
St. Hilaire, P.Q.....				109			
St. Henri de Taillon, P.Q.....		21					
St. Hyacinthe, P.Q., public buildings.....		9, 31	16				
St. Ignace de Loyala, P.Q.....		21					
St. Irénée, P.Q.....		21		123			
St. Jean Chrysostôme, P.Q.....		19		91			
St. Jean des Chailons, P.Q.....		21		123			
St. Jean, Ile d'Orléans, P.Q.....		21					
St. Jérôme, P.Q., public building.....		9, 31	16				
St. John River, N.B.....		18		76			
" harbour, N.B.....		8		79, 161			
" N.B., public buildings.....		8, 30	7, 8				
St. Johns, P.Q., ice piers.....				114			
" public buildings.....		9, 31	16				
St. Joseph, Ont.....		23		149			
St. Laurent, Isle d'Orléans, P.Q.....		21		124			
St. Louis du Mile End, P.Q., public building.....		9, 30					
St. Louis River headgate, P.Q.....				115			
St. Marys, Ont., public buildings.....		11	32				
" River, Ont.....		23					
St. Maurice River, dredging.....				204			
" slides.....		4		265		4, 12	

SESSIONAL PAPER No. 19

Names of Places, &c.	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7
	Page.	Page.	Page.	Page.	Page.	Page.	Page.
St.							
St. Méthode, P.Q.				127			
St. Paul de L'Île aux Noix				124			
St. Ours, P.Q.				204			
St. Peter's Bay, P. E. I.		17		58			
St. Placide, P.Q.		21		204			
St. Prime, P.Q.		21					
St. Roch, P.Q., public building		31					
St. Siméon, P.Q.		21		124			
St. Stephen, N. B., public building		8, 30	8				
St. Sulpice, P.Q.		21					
St. Thomas, Ont., public building		11, 33	31				
St. Timothee, P.Q.		22		124			
St. Ulric de Matane, P.Q.		21		110			
St. Valentine, P.Q.				124			
St. Valier, P.Q.		22		125			
St. Zotique, P.Q.		22		125			
S.							
Sabrevois, P.Q.		21		117			
Sacré Couer de Marie, P.Q.		20		102			
Saguenay River, slides		25				5, 13	
" telegraph		26					
Salaries of Enginemen, &c.		27					33
Sandwich, Ont., public building		11, 33	32				
Sand Point (St. John), N. B.	8			79			
Sarnia, Ont., public building		11, 33	31				
" dredging		23		147, 209			
Saskatoon, Sask., public building		13, 35					
Saskatchewan River, N. W. T.		24					
Saskatchewan Province		12, 34	35				
" telegraphs		26					
Saugen River, Ont.		23		147			
Sault au Mouton, P.Q.		21		126			
Sault Montmorency, P.Q.		23		147			
Sault Ste. Marie, Ont., wharf		23					
Sault Ste. Marie, Ont., public building		11-33					
Scotch Cove, N. S.		16		44			
Scott's Bay, N. S.		16		44			
Secretary, staff, salaries		27					
Selkirk, Man., public buildings		12					
" wharf		24		152			
Seven Islands, P.Q.		19		148			
Severn River, Ont.		23		74			
Shediac, N. B.		18		49			
Sheet Harbour, N. S.		16		269			
Shelburne, N. S., public building		7					
Shellmouth bridge, N. W. T.		25					
Sherbrooke, P.Q., public buildings		9, 31					
Sheguindah, Ont.		23		148			
Shippegan Gully, N. B.		18		80			
Sidney Island, B. C.		24		157			
Silverwater, Ont.		23		148			
Simcoe, Ont., post office		11					
Sissons Falls, N. B.		18		78			
Skeena River, B. C.		24		158			
Skinner's Cove, N. S.		16		45			
Slides and booms		4	25	261			
" dues						3, 15	
" officials							27
Smith Falls, Ont., public building		11, 33					
Smithville, N. S.		16					
Sorel, P. Q., harbour		22		126			
" dredging		22		204			
" public buildings		9, 31	16				
South River, P. E. I.		17		55			
South Thompson River, B. C.		24		157			
Souris, P. E. I.		17					
" post office		7, 29	9				
Southampton, Ont.		23		149			
South Nation River, Ont.		23		209			
Springhill, N. S., public building		7, 29					
Stephens Pier, P. E. I.		17		58			
Stettler, N. W. T.		35					
Stonehaven, N. B.		17		81			
Stratford, Ont., public buildings		11, 33	32				
Strathcona, Alta., immigration building		35					
Strathroy, Ont., public building		11, 33	32				
Sturgeon Falls, Ont.		23		209			

Names of Places, &c.	Part 1 Page.	Part 2 Page.	Part 3 Page.	Part 4 Page.	Part 5 Page.	Part 6 Page.	Part 7 Page.
S							
Summerside, P. E. I., harbour.....		17		59			
" public buildings.....		7, 29					
Superintendent of telegraphs.....					1		
Surveys and inspections.....							
Sussex, N. B., public building.....		8, 30					
Sydenham River, Ont.....		23					
Sydney, N. S., public building.....		7, 29					
" quarantine.....		7, 16	6	46			
" dredging.....		16		159, 160			
Sydney Mines, N. S., public building.....		7, 28					
T							
Tableau, P. Q.....		20		99			
Tadoussac, P. Q.....		22					
Tariff, telegraph lines.....					37		
Tatamagouche, N. S.....		16		46			
Technical books of reference.....		27					
Telephones.....					11		
Telegraph lines, generally.....	10	26			9		
" report.....					1		
" revenue.....					10		
Telegraph service, staff.....		27			11		
Terrebonne, P. Q., public building.....	9, 31						
" wharf.....		22					
Thames River, Ont.....		22		150, 209			
Thessalon, Ont.....				149			
Thetford Mines, P. Q., public building.....		9	17	4			
Three Rivers, P. Q., harbour.....	7	22		127			
" public buildings.....		9, 31	17				
Thurso, P. Q.....		22		204			
Tignish, P. E. I.....		17					
Ticouabe, P. Q.....				127			
Tobique River, N. B.....		18		78			
Toney River, N. S.....		16		46			
Tooleton, N. B.....		18					
Toronto Junction, Ont., public building.....	12, 33		33				
" harbour.....		11, 33	32, 33	149, 210			
" public buildings.....	4						
Total expenditure of department.....		27					
Tracadie, N. B., lazaretto.....		8, 30	8				
" N. S., harbour.....		16		47			
Transportation Commission.....		27					
Treadwell, Ont.....		23		150			
Trent and Newcastle slides.....						5, 13	
Trenton, Ont., harbour.....		23		210			
" public building.....		12, 33					
Trois Pistoles, P. Q.....		22		127			
Trowers Lake, N. B.....		18					
Truro, N. S., public buildings.....		7, 29	6				
Tynemouth Creek, N. B.....		18		82			
Tyrian, SS., cable ship.....					9, 72		
U							
Uncollected slide and boom dues.....						15	
Upper Granville, N. S.....		16		43			
Upper Sheffield, N. B.....		18					
V							
Valois, P. Q.....		20		106			
Valleyfield, P. Q., public building.....	9, 31						
Vancouver, B. C., public buildings.....	13, 35		38				
Vancouver-Salt Springs, telegraph.....		26			33, 56		
Verdun, P. Q.....		22		128			
Virden, Man.....		33					
Victoria, B. C., harbour.....		24		251			
" public buildings.....		13, 35	39				
Victoria-Cape Beale, telegraph.....		26			30, 55		
Victoria Wharf, N. B.....		18		161			
Victoria Beach, N. S.....		16					
Victoria Pier, P. E. I.....		17		60, 161			
Victoria National Museum.....			29				
Victoriaville, P. Q., public building.....	9, 31		17				
Ville Marie, P. Q.....		22		128, 204			

SESSIONAL PAPER No. 19

Names of Places, &c.	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7
	Page.	Page.	Page.	Page.	Page.	Page.	Page.
W							
Walkerton, Ont., public building.....		12, 33	33				
Wallace, N.S.....		16		47			
Waupoos East, Ont.....		23		210			
Washago, Ont.....		23		148			
Water, public buildings.....		29					
Waubashene, Ont.....				151			
Wendover, Ont.....		23		151			
West Arichat Wharf.....				47			
West Arichat, N.S.....		16		47			
West Farnham, P.Q., public building.....		30					
Western Head, N.S.....		16		47			
West Quivdy, N.S.....		17		49			
West River, N.S.....		16		49			
West Head, N.S.....		16					
West Selkirk, Man.....		24		248			
Westville, N.S., public building.....		7					
Weymouth, N.S.....		16		49			
White Cove, N.B.....		16					
Whitehorse, Y.T., post office.....		35					
Whitemouth, N.W.T., bridge.....		25		268			
Wiaraton, Ont.....		23		151			
Williams Head, B.C., quarantine.....		13, 35	39	158			
Williams Head, B.C.....		24					
Wilson's Beach, N.B.....		18		82			
Windsor, N.S., public building.....		7, 29					
" dredging.....		17		160			
Windsor, Ont., public building.....		12, 33					
Wingham, Ont., post office.....		12, 33					
Winnipeg, Man., public buildings.....		12, 34	34, 35				
Winnipeg River, Man.....		24		152			
Winnipegosis, Man.....		24		248			
Woodstock, Ont., public buildings.....		12, 33					
Woodstock, N.B., public buildings.....		8, 30					
Wood Island, P.E.I.....		17	60				
Wood Mountain, N.W.T., telegraph.....		26			27, 54		
Wolfe Island, Ont.....		23					
Wolfville, N.S.....		17		49			
Wolseley Alta., court house.....		13, 35					
Wreck Cove, N.S.....			50				
Y							
Yamaska River, P.Q.....		22		204			
Yamaska, P.Q., lock and dam.....		22		260			
Yarmouth, N.S., dredging.....		17		160			
" public building.....		7, 29					
Yorkton, Alta., public buildings.....		35					
Yukon, public buildings.....		14, 35	40				
" telegraphs.....		26			34, 60		

PART I

REPORT

OF THE

DEPUTY MINISTER OF PUBLIC WORKS

FOR THE YEAR ENDED MARCH 31

1907

REPORT
OF THE
DEPUTY MINISTER OF PUBLIC WORKS
FOR THE
FISCAL PERIOD ENDED MARCH 31, 1907

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, November 15, 1907.

Hon. WILLIAM PUGSLEY,
Minister of Public Works of Canada,
Ottawa.

SIR,—I have the honour to submit the report of the operations of the Department of Public Works during the fiscal year ended March 31st last.

On account of the change in the date of termination of the year, the report covers nine months only, from July 1, 1906, to March 31, 1907. In making the usual comparison between the expenditure of the present and the previous fiscal year, you will kindly bear in mind the difference in the period under review.

EXPENDITURE.

The total expenditure incurred by the department during the year 1906-7 amounts to the sum of \$7,155,396, and is classified under the following different heads:—

Harbours and rivers.	\$1,532,255 77
Dredging.	1,964,529 28
Slides and booms.	98,636 08
Roads and bridges.	44,461 55
Public buildings.	2,784,713 69
Telegraphs.	376,605 48
Miscellaneous.	354,194 21
	<hr/>
	\$7,155,396 06

7-8 EDWARD VII., A. 1908

The above statement shows a continuation of the expansion of the work of the department during the year under review, the expenditure being in proportion somewhat greater than that of the preceding year.

REVENUE.

The total revenue for the year amounts to the sum of \$279,484.15, subdivided as follows:—

Slides and booms.. . . .	\$86,837 98
Graving docks.. . . .	30,652 79
Rents.. . . .	6,566 70
Telegraph lines.. . . .	91,760 84
Casual revenue.. . . .	63,665 84
Total.. . . .	\$279,484 15

If a proportion be established between the full twelve months of the year 1906, when the revenue amounted to \$261,314.67, divided as follows:

Slides and booms.. . . .	\$81,211 21
Graving docks.. . . .	44,067 63
Rents.. . . .	4,343 00
Telegraph lines.. . . .	106,300 38
Casual revenue.. . . .	25,392 45
Total.. . . .	\$261,314 67,

it will be seen that the short fiscal year under review presents quite an improvement on the preceding one; every item of revenue being proportionately greater, and that for slides and booms, without even the deduction of the proportionate three months, being greater than in 1906-7. The only shortage apparent is in the operations of the graving docks, and this is more a subject of congratulation than of complaint, as a decreased revenue in the operations of the docks means fewer casualties to vessels, therefore smaller loss to the shipping trade and commerce of the country.

The revenue received from slides and booms is subdivided as follows:—

St. Maurice district.. . . .	\$41,324 16
Ottawa district.. . . .	43,843 61
Newcastle district.. . . .	1,670 21
Total.. . . .	\$86,837 98

This subdivision shows a steady improvement in the revenue derived from the St. Maurice works which, for the past six years, is as follows:—

1902.. . . .	\$13,565 48
1903.. . . .	29,232 33
1904.. . . .	27,321 67
1905.. . . .	36,431 21
1906.. . . .	37,101 02
1907.. . . .	41,324 16

SESSIONAL PAPER No. 19

It is encouraging to note the progress in some of our revenue-producing works, the more so as while the sums expended in improvements on the River St. Maurice were quite large during the past few years, hopes were always held out that any expenditure for the maintenance and renewal of the existing works would be followed by an almost certain increase in the revenue. It is pleasing to see that our expectations are being fulfilled. The revenue for the current year is expected to be even greater than that of the past year, as all the industries on the River St. Maurice are taking every advantage of better conditions and enlarging their output accordingly.

The amounts received from the operations of the graving docks are as follows:—

Esquimalt.. . . .	\$19,627 04
Kingston.. . . .	4,365 93
Lévis...	6,659 82

The receipts from the Esquimalt dock are greater than they were last year, but those for Kingston and Lévis are much below that of the preceding year.

PUBLIC BUILDINGS.

The progress in this branch of the department has been most marked during the fiscal period under review, and its work is better exemplified by the number of buildings which were commenced, completed and occupied during the fiscal year.

The following is a list of the buildings completed:—Public buildings for post office, customs, &c., purposes at Antigonish, Canso, N.S.; Souris, P.E.I.; Longueuil Que.; Alexandria, Sandwich, Ont.; drill hall at Fredericton, N.B.; St. Hyacinthe, Que.; Chatham, Ont.; custom-house at Halifax; military stores at London, Ont.; armouries at Stratford, Ont.; immigration buildings at Winnipeg and Edmonton; a building at New Westminster, B.C., for the Indian and Fisheries Departments; large buildings in Ottawa for the Archives, the Royal Mint, and a new addition to the West block of the departmental buildings.

The buildings now under construction are the following:—Post offices, &c., at Chicoutimi, Lévis, Montmagny, Que.; a post office at St. John's, Que.; post office, &c., buildings at Medicine Hat and Regina, Sask.; an addition to the post office at Calgary, Alta.; an extensive post office building at Vancouver, B.C.; a drill hall at Three Rivers, Que., and an extension to the drill hall at Toronto; armouries at Guelph, Ont.; a new post office building at Winnipeg, Man.; an addition to the post office at Calgary, Alta.; a postal station 'F' at Toronto, and an immigration hospital at Quebec. Three extensive buildings are also under way in the city of Ottawa, viz., an addition to the Parliament buildings; an extension to the Supreme Court building, and the Victoria Memorial Museum for geological, &c., purposes, located at the foot of Metcalfe street in this city.

During the year the following buildings were placed under contract:—Post office, &c., buildings at Inverness, N.S.; Iberville, P.Q.; North Bay, Ont.; St. Boniface, Man.; Edmonton, Alta., and Fernie, B.C., as well as a new drill hall at Hamilton, Ont.

7-8 EDWARD VII., A. 1908

The public buildings reported as being under construction at Lévis and Montmagny are almost completed, while that at Chicoutimi is now being supplied with its heating apparatus, fittings, &c., preparatory to an early occupation. The immigration hospital at Québec and the drill hall at Three Rivers are being supplied with fittings. The Victoria Memorial Museum in Ottawa is being pushed with vigour, and it is expected that it will be finished within the time specified in the contract.

The expenditure on the public buildings of the Dominion is under the control of the chief architect of the department, and covers not only the construction of new works but the repairs and maintenance of the existing ones, as well as their supply during the year with all the fittings, lighting, heating, water, &c.

The number of buildings under the control of the department is increasing rapidly, and the sums required for their maintenance are steadily growing larger. These buildings deteriorate every year, even with the best of care, and require to be constantly attended to in order to retain an appearance worthy of the country which constructs and maintains them.

The various works connected with the above have been carried on with attention by the large staff under the control of the chief architect, who has reason to congratulate himself on the fine appearance of the buildings being erected over the length and breadth of the Dominion, as well as of those which have been constructed for some time and maintained under the supervision of his staff.

The cost of the buildings now being put up is materially in excess of that of similar ones erected a few years ago. The increase in the value of materials as well as in the rate of wages paid to the various workmen engaged in their construction; the reduction of the working hours, &c., all tend to increase the cost of construction. When a comparison, therefore, is being made between the present buildings and similar constructions made fifteen or twenty years ago, a very considerable percentage has to be added to the old buildings in order to make the comparison a fair one with the present cost. The same may be said of the amounts paid for maintenance, &c., the price of everything having gone up, the supplies necessary, the wages of the men engaged, the salaries of the permanent staff, have all been increased.

During the fiscal year under review steps have been taken to obtain competitive drawings for the construction of the proposed new departmental buildings in the city of Ottawa. The plans were received by the department, and examined by a professional committee composed of Messrs. E. Burke and A. Chaussé, architects of Toronto and Montreal, and Mr. David Ewart, I.S.O., chief architect of the Department of Public Works. Twenty-nine designs were received, aggregating 397 large sheets with 186 sheets of descriptive memoranda. A careful and protracted examination by the assessors resulted in the following award:—

- 1st prize—E. S. Maxwell, \$8,000.
- 2nd prize—Darling & Pearson, \$4,000.
- 3rd prize—Saxe & Archibald, \$2,000.
- 4th prize—Brown & Vallance, \$1,000.

SESSIONAL PAPER No. 19

It has not yet been decided whether the plans submitted will be followed in their entirety or whether the designs will only serve as a model in the preparation of the final working plans. The designs which gained the prizes have become the absolute property of the department.

HARBOURS AND RIVERS.

The amount expended in that most important branch of our service totals up to \$3,639,882.68; the said sum having been expended under the direction of the chief engineer and his valuable staff of assistants throughout the Dominion during the short fiscal year under review, the sum expended in 1906-7 for the same service having amounted to \$4,552,334.80. Works of improvement, other than dredging, have been carried on at 376 different points in the Dominion of Canada from the Atlantic to the Pacific coasts during the year under review, those works mainly consisting of the construction of wharfs, piers, &c., their repair, improvement and reconstruction.

During the year, an important work under the control of the Department of Public Works was completed, viz., the high level pier in the lower division in the harbour of Montreal at Maisonneuve, the work having been executed in a very satisfactory manner by the firm of W. J. Poupore & Co., Limited. Another work which was also handed over in the dock constructed in the harbour of Three Rivers by Mr. Randolph Macdonald; this work has been placed under the management of the harbour commissioners of Three Rivers, and it is understood that the space which it affords has been immediately occupied by various companies trading with that port. The work was handed over to the department in very good condition, and reflects great credit on the contractor and engineers, who have designed and superintended it. The pier constructed by the Poupore Company is one of the best of the kind on this continent, and is admired by every one who has occasion to visit the same and who is acquainted with the difficulties which accompanied its execution.

The report of the chief engineer gives details of the works constructed or maintained in every province. Statements are given of the cost of each work, a description is supplied of their location, extent, depth of water, &c., and the report contains valuable information concerning every one of the works reviewed.

In the front ranks of the operations of the department may be placed the work of dredging. Owing to peculiar circumstances, created by the increase in the size of vessels carrying on the shipping trade on Canadian waters, and at some points, to the decrease in the depth of water, due to deforestation, &c., dredging has had to be performed in numerous places, the work being, in the majority of cases done by contract after a call for public tenders.

As a fact, contracts were only made without public tenders for work at places when, on the public call, no tenders were received presumably because the parties having dredging fleets saw before them sufficient work to be performed during the season in other places and therefore did not cover the whole field before them when the call for tenders was made.

7-8 EDWARD VII., A. 1908

The lack of dredging machinery is not only felt in the department but also among the dredging contractors; often enough also, when the contractors have the appliances, those are of a kind which are not well able to perform the work which they are called upon to do. Furthermore, dredging has some times to be done in exposed places, where the dredges cannot stand the buffeting of the storms or can perform very little work during the time they are engaged.

Be it as it may, however, the work of the department in that direction has been quite extensive, and productive of very good results.

In the maritime provinces, operations have been carried on at twenty-three different points by the dredges of the department, while work has been performed in the harbour of St. John, N.B., by a dredge, the property of Mr. G. S. Mayes, the work having been awarded after a call for public tenders. This work is now being continued by Mr. Mayes' dredge and by another owned by the Dominion Dredging Company. It is intended to add the dredge *W. S. Fielding* to the two other dredges in order to improve the entrance to the harbour and to provide necessary berths for the steamships which are engaged in carrying on the winter trade between Canada and the European ports.

In the province of Quebec dredging was performed at thirty-eight points, while in the province of Ontario thirty-four places were improved.

A large contract was given during last year for dredging in the Kaministiquia and Mission rivers and in the harbour of Port Arthur, these contracts being intended to extend over several years and to provide sufficient water for the navigation which will require to use these channels when the work will be completed.

Improvements of the same nature were also made by the plant owned by this department in Manitoba and British Columbia.

As I have above stated, however, the bulk of the fleet of privately owned dredges is found in the provinces of Ontario and Quebec. In the province of New Brunswick there is only one point where a private dredge was at work. In Nova Scotia, Prince Edward Island, Manitoba and British Columbia all the work of that nature is being performed by dredges owned by the department. The Department of Public Works owns altogether 31 dredges, distributed as follows, viz:—

Maritime provinces.	10
Ontario and Quebec.	15
Manitoba.	3
British Columbia.	3

with the attending scows of various kinds. Some difficulty is experienced for the towing of the dredges from one place to the other, especially for conducting the new dredging appliances from the points where they are constructed to those where they are to be placed at work. For that purpose, a large sea-going tug is required, and its expenses will soon be covered when it is considered that last year the sum of nearly \$30,000 was expended in towage outside of that which was done by the vessels owned by the department.

SESSIONAL PAPER No. 19

The various appendices attached to the report of the chief engineer show in detail the work done by the dredging fleet, both department owned and private owned, the quantity of material removed at different points, the nature of such material and the cost of the operations.

The staff of the chief engineer, distributed throughout the Dominion, has, in the several districts assigned to it, not only to supervise the work of construction of docks, piers and breakwaters, but also to indicate the nature of the work required to be done by the dredges, as well as to make a large number of surveys and examinations required each year for the preparation of the estimates laid before parliament. The work done by those officers cannot be too highly praised, as well as their devotion to the department, in working early and late and in all kinds of seasons and weather.

GEORGIAN BAY SHIP CANAL.

Annexed to the report of the chief engineer is an interim report of the Georgian Bay Ship Canal survey by the engineer in charge, Mr. Arthur St. Laurent. The report in question is only a short one, inasmuch as in a few months a complete report, with plans and estimates, will be supplied to the department, and it is therefore unnecessary at the present moment to go into minute details. I quote from Mr. St. Laurent's report the following remarks:—

‘The proposed work is one of great magnitude, and presents many engineering difficulties which require long and serious consideration. These difficulties can be overcome, but in deciding on the general lines of the project and the character of the structures and methods of construction due consideration must be given to economy in design, and great care exercised in not interfering too much with established industries or vested interests. At the same time, it is of the greatest importance that the canal be designed to meet the object in view, and assure safe passage to large boats.’

‘It may be well here to state that the amount of engineering work involved is so large that the officers in charge of the survey have had to devote their whole time to the consideration of the technical part of the project only, and it will be possible for them to treat only lightly, in their report, on the commercial possibilities of the waterway.’

The report also contains valuable suggestions on several points outside of the purely technical part of the work, which would require to be considered and studied, and this may probably be the field within which a commission, if appointed in connection with this work, may find very useful employment and labour.

The time does not appear to have come as yet, however, for the discussion as to whether the work in question should be carried on under the control of a commission or whether it should be directly executed by the department, as was the construction and extension of the several other Canadian canals. Whether this mode or another be selected for the supervision of construction, it may be stated that the service performed by the officers of the survey, for the past three years, has been most careful and accurate, and that whatever authority may be in charge of the work, will

7-8 EDWARD VII., A. 1908

have in the engineer now at the head of the survey, and in those who have assisted him, as well as in their plans, notes, estimates, reports, &c., a sure guide in the planning and execution of the work.

TELEGRAPHS.

The department at present controls over 7,000 miles of telegraphs, both in land lines and cables. Few land lines have been constructed during the year under review. Some stretches of wire have been laid in the Chicoutimi district and in some parts of the provinces of Saskatchewan and Alberta, but the main work done during the year has been the keeping in repair of the several lines and their management in order to serve the public, for the benefit of whom they have been constructed, in many cases, at points remote from the centre of business, and where private companies did not think the remuneration would be in direct ratio to the amount required for construction and operation. The cables have been kept in good condition by the officers and crew of our cable ship *Tyrian*, who have performed their work in a very satisfactory manner.

The duty of collecting the returns from those several telegraph lines is in some cases very arduous, and it is also quite difficult to obtain the returns at the time when they may be needed for the preparation of the auditor general's statement. Many of those lines are located in out-of-the-way places, where the amounts paid in are very small. On some stretches, especially on the coast of the lower St. Lawrence, where the lines are more for the purpose of signalling, &c., the operators receiving only very small pay, the returns are also very small, and it is pretty hard to make them consider the making of those returns as important a matter as if their salary were greater and amounts involved larger. During the year, some difficulty has been experienced on that score, but matters are steadily improving, and it is hoped that during the next year the improvement will be even more noticeable, until a standard will be obtained which will be quite satisfactory to all concerned.

MISCELLANEOUS.

The report further contains the usual data concerning the contracts awarded by the department, the property purchased, sold and leased, as well as the correspondence carried on between the several officials and the public. The report of the Collector of Revenue is also a feature of the appendices herewith submitted.

All those statements show the vast expansion which is gradually taking place in our work, and shows also the great care which has been taken by each officer in the performance of his special duties.

In conclusion, I beg, in submitting this my seventeenth report as Deputy Minister of your department, to express my deep appreciation of the assistance given me by the officers and clerks in our service, and should my tenure of office not continue for a much longer period I will always carry with me the most pleasant remembrance

SESSIONAL PAPER No. 19

of the help which they have given me in the performance of our work. The department has been increasing by leaps and bounds. In 1880, the number of clerks employed therein was about 17, and the appropriations at our disposal did not much exceed \$500,000; last year the appropriations granted by parliament totalled over \$14,000,000, and the staff of employees has increased in some proportion, although I may say that the increase in staff has not kept pace with the expansion of the expenditure.

I have the honour to be, sir,

Your obedient servant,

A. GOBEIL,
Deputy Minister.

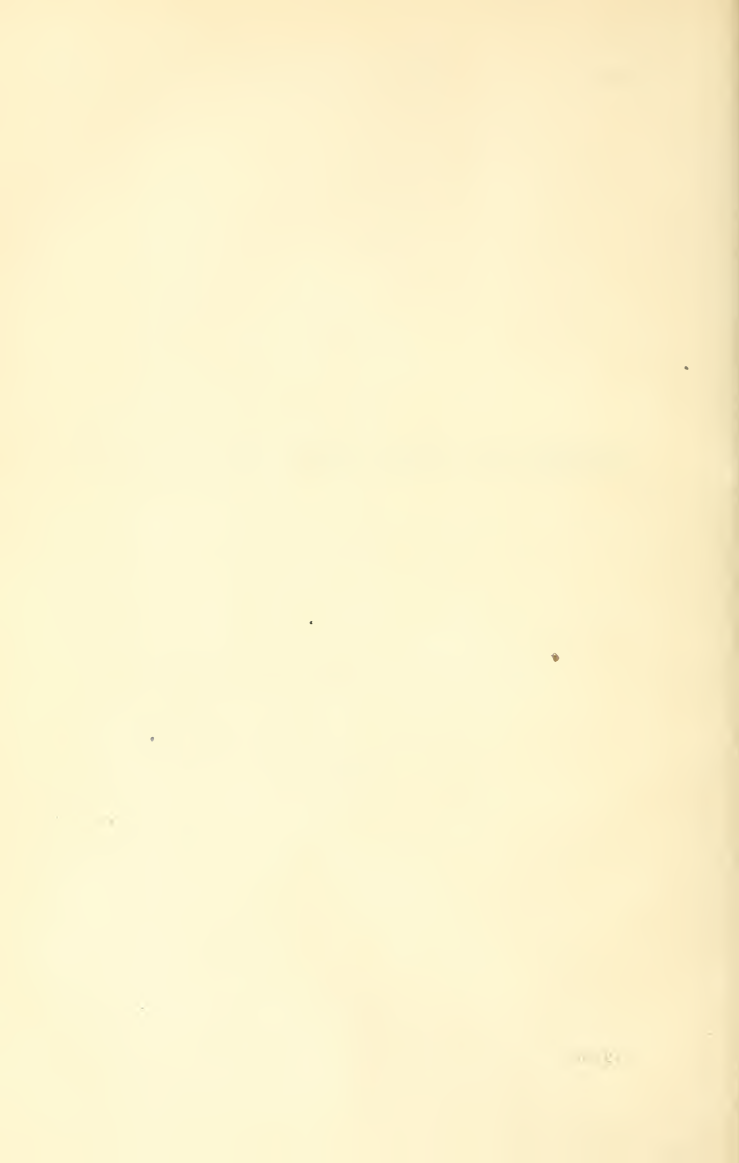
PART II

REPORT OF THE CHIEF ACCOUNTANT

FOR THE

FISCAL PERIOD ENDED MARCH 31

1907



7-8 EDWARD VII., A. 1908

DEPARTMENT OF PUBLIC WORKS, CANADA,
ACCOUNTANT'S OFFICE,
OTTAWA, October 26, 1907.

A. GOBEL, Esq., I.S.O.,
Deputy Minister,
Department of Public Works,
Ottawa.

SIR,—I beg to submit the report upon the expenditures made by this Department during the fiscal period of nine months ended March 31, 1907.

As in previous years the report takes the form of three tabular statements, as follows :—

Statement A, showing the expenditure upon each work under the several heads of (1) construction and improvements, (2) repairs, (3) staff and maintenance. In treating of public buildings, as it is found desirable to give the cost of maintenance in greater detail, this information is shown in a second statement, as described below, the total cost of maintenance for each province being condensed to one item in statement A. In treating of harbours and rivers an additional column is devoted to the cost of dredging.

Statement B, showing separately for each building the cost of rent, salaries, heating, lighting and water.

Statement C, showing amounts advanced by Government for the construction of certain works of a semi-public character, under statutory authority and after inspection by officers of this department.

The total expenditure during the fiscal period was \$7,155,396.06. For purposes of comparison with the expenditure made during the previous full fiscal year it will be necessary to reduce the figures of that year by one-fourth. From this it will be seen that there has been but a slight increase in expenditure (about 2 per cent) as follows :—

Total expenditure, 1905-6.....	\$ 9,347,527 22
Three-fourths of same.....	\$ 7,010,645 42
Total expenditure, 1906-7....	7,155,396 06
	<hr/>
Increase.....	\$ 144,750 64
	<hr/>

7-8 EDWARD VII., A. 1908

The volume of work passed through the Accountant's Branch during 1906-7 may be briefly indicated as follows:—

	Number of cheques issued	Amount.
		\$ cts.
Direct payment by departmental cheque—		
Issued by head office, Ottawa	37,294	3,152,913 23
" agencies	5,767	399,490 81
Total departmental cheques.	43,061	3,552,404 04
Payment by Receiver General's cheque, after applications issued by this office, upon the Auditor General (contract work, &c.)	740	3,602,992 02
Total expenditure.		7,155,396 06

I have the honour to be, sir,

Your obedient servant,

A. G. KINGSTON,
Chief Accountant.

STATEMENTS OF EXPENDITURE

DURING

FISCAL PERIOD ENDED MARCH 31, 1907

STATEMENT A.—Showing the Amounts Expended by the Department of Public Works of Canada during the fiscal period ending March 31, 1907.

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
PUBLIC BUILDINGS.				
<i>Nova Scotia.</i>				
Amherst post office.		55 85		55 85
Annapolis "		295 09		295 09
Antigonish "	2,548 46	7 96		2,556 52
Arichat "		9 50		9 50
Baddeck "		19 33		19 33
Bridgewater public building.	5,581 21			5,591 21
Canso post office.	7,525 02			7,525 02
Dartmouth post office.		2 20		2 20
Digby "		13 30		13 30
Glace Bay "	5,330 26			5,330 26
Guysboro' "		75 53		75 53
Halifax appraiser's office (E.W.).		5 50		5 50
" cattle quarantine station.	887 30			887 30
" custom house (new).	39,397 84	24 20		39,422 04
" immigrant building.	2,039 69	1,756 63		3,796 32
" detention building.	30,013 88			30,013 88
" Lawlor's Island quarantine station (winter hospital).	6,196 28			6,196 28
" post office (formerly Dominion Building).	1,743 54	114 50		1,858 04
Inverness post office.	8,734 48			8,734 48
Kentville "		266 43		266 43
Liverpool "		211 42		211 42
Lunenburg "	2,038 45	3 00		2,041 45
Nappan experimental farm.		385 72		385 72
New Glasgow post office.		432 29		432 29
North Sydney "	2,745 72	28 99		2,774 71
Pictou custom house.		383 34		383 34
" post office.	1,129 40	226 35		1,355 75
Shelburne public building.	1,594 55			1,594 55
Springhill post office.		378 36		378 36
Sydney "	4,429 08	91 36		4,520 44
" quarantine station artesian well.	207 29			207 29
Sydney Mines post office.		1,539 34		1,539 34
Truro post office.		553 25		553 25
Westville public building.	2,000 00			2,000 00
Windsor post office.		514 23		514 23
Yarmouth "	465 64	31 75		497 39
Heating, lighting, water, &c., for all buildings in Nova Scotia (for details see page 29).			26,675 54	26,675 54
Totals, N.S.	124,618 19	7,425 42	26,675 54	158,719 15
<i>Prince Edward Island.</i>				
Charlottetown Dominion Building.		1,107 84		1,107 84
Montague post office.		26 13		26 13
Souris "	5,810 43			5,810 43
Summerside "	1,500 00	400 80		1,900 80
Heating, lighting, water, &c., for all buildings in Prince Edward Island (for details see page 29).			5,618 82	5,618 82
Totals, P.E.I.	7,310 43	1,534 77	5,618 82	14,464 02

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Im- provements.	Repairs and Furniture.	Staff and Main- tenance.	Total.
<i>PUBLIC BUILDINGS—Continued.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>New Brunswick.</i>				
Bathurst post office		246 56		246 56
Campbellton post office	3,818 62	34 40		3,853 02
Chatham "		276 80		276 80
" Engineer's office		41 19		41 19
Dalhousie post office		1,602 82		1,602 82
Fredericton "		2,872 42		2,872 42
" drill hall	2,205 00			2,205 00
Marysville post office		140 00		140 00
Moncton "		374 27		374 27
Newcastle "		5 00		5 00
Partridge Island quarantine station—waterworks	12,999 42			12,999 42
" " " buildings, &c.	1,637 00	1,190 50		2,827 50
Richibucto post office		366 56		366 56
St. John cattle quarantine station	4,765 35			4,765 35
" custom house		1,741 72		1,741 72
" immigration building		236 95		236 95
" military building	6 00			6 00
" post office		410 17		410 17
" savings bank		20 24		20 24
St. Stephen's post office		15 00		15 00
Sussex "		128 27		128 27
Tracadie lazaretto	152 08	79 00		231 08
Woodstock armoury	9,875 30			9,875 30
" post office		620 02		620 02
Heating, lighting, water, &c., for all buildings in New Brunswick (for details see page 30).			26,229 73	26,229 73
Totals New Brunswick	35,458 77	10,401 89	26,229 73	72,090 39
<i>Quebec.</i>				
Actonville post office	1,061 59	12 52		1,074 11
Aylmer "	1,016 97	183 41		1,200 38
Beauport inland revenue office		60 00		60 00
Berthierville post office		344 81		344 81
Buckingham "		136 82		136 82
Chicoutimi "	9,893 58			9,893 58
Coaticook "		247 68		247 68
Drummondville "		621 37		621 37
Dundee custom house		158 55		158 55
Granby post office		4 81		4 81
Grosse Isle quarantine station	12,520 27			12,520 27
" disinfecting apparatus, including building	223 82			223 82
Farnham post office		46 05		46 05
Fraserville "	952 55	489 45		1,442 00
Hull "		19 85		19 85
Iberville "	6,059 67			6,059 67
Joliette post office	685 29	252 06		937 35
Lachine "		221 84		221 84
Laprairie "		27 66		27 66
L'Assomption post office		37 38		37 38
Levis, cattle quarantine station		581 95		581 95
" post office	7,060 83			7,060 83
Longueuil post office	220 53	2 63		223 16
Magog "	4,150 00			4,150 00
Montmagny "	1,380 77	4 93		1,385 70
Montreal custom house		2,615 86		2,615 86
" engineer's office		1,841 20		1,841 20
" examining warehouse	7,000 00	269 12		7,269 12
" " power for elevators			211 09	211 09
" immigration office		200 19		200 19

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Construction and Im- provements.	Repairs and Furniture.	Staff and Main- tenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
PUBLIC BUILDINGS—Continued.				
Quebec—Continued.				
Montreal inland revenue office.....		1,381 08		1,381 08
" post office (main).....		7,462 98		7,462 98
" " power for elevators.....			1,765 88	1,765 88
" " rented branch offices.....		370 80		370 80
" pneumatic tube system between G.P.O. and new postal stations.....	1,571 00			1,571 00
" new postal station (B), St. Catherine St....	27,606 03			27,606 03
Nicolet post office.....	8,152 51			8,152 51
Nonington immigration building.....	2,212 90			2,212 90
Peribonka immigrant shed.....	200 60	11 91		211 91
Quebec citadel, Governor General's quarters.....		810 95		810 95
" clerk of works office, (P.O.).....		13 00		13 00
" custom house.....		2,291 43		2,291 43
" examining warehouse.....		789 63		789 63
" King's wharf building, (marine signal service, cullers, gas inspector, weights and measures)		54 88		54 88
" immigration building, (Louise Embankment)		1,258 10		1,258 10
" immigration hospital for trachoma.....	30,692 99			30,692 99
" post office.....		3,325 26		3,325 26
" " power for elevator.....			100 00	100 00
" military buildings.....	478 13			478 13
" " shed for storage of heavy goods in shot yard.....	535 00			535 00
" resident engineer's office.....		196 50		196 50
Richmond post office.....		87 67		87 67
Rimouski post office.....	419 21	26 65		445 86
Roberval immigrant shed.....		62 38		62 38
Sherbrooke post office.....		399 40		399 40
Sorel post office, &c.....	1,340 10	333 29		1,673 39
St. Cuneo de post office.....	3,160 00	7 45		3,167 45
St. Eustache.....		7 45		7 45
St. Henri.....		46 12		46 12
St. Hyacinthe.....	16,582 21			16,582 21
" inland revenue office.....		99 57		99 57
" post office, &c.....		173 33		173 33
St. Jerome.....		320 97		320 97
St. John's.....	829 60			829 60
" military buildings, stables for cavalry.....	32 25			32 25
St. Louis du Mile-End post office.....		406 71		406 71
Terrebonne post office.....		109 46		109 46
Thetford Mines post office.....		481 31		481 31
Three Rivers custom house.....	2,027 59	1,114 10		3,141 69
" " paid city for drainage, snow clearing, &c., 1896-1905.....			420 96	420 96
Three Rivers drill hall.....	24,618 51			24,618 51
" post office.....		298 16		298 16
" " paid city for drainage, snow clearing, &c., 1896-1905.....			555 58	555 58
Valleyfield post office.....		43 30		43 30
Victoriaville.....		318 57		318 57
Heating, lighting, water, &c., for all buildings in Quebec (for details see page 31).....			92,552 82	92,552 82
Totals, Quebec.....	172,083 90	30,682 55	95,606 33	298,372 88
Ontario.				
Alexandria post office.....	8,907 38	48 26		8,955 64
Almonte.....		156 75		156 75
Amherstburg.....	850 55	43 71		894 26
Arnprior post office.....	166 80	52 25		219 05
Barrie.....		935 62		935 62

7-3 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Staff and Maintenance.	Total.
PUBLIC BUILDINGS— <i>Continued.</i>				
<i>Ontario—Continued.</i>				
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Belleville armoury.....	1,985 69			1,985 69
" post office.....	2,800 56	191 86		2,992 42
Berlin ".....	219 71			219 71
Bowmanville ".....		8 97		8 97
Brampton ".....		968 65		968 65
Brantford drill hall.....	1,629 06			1,629 06
" post office.....	2,917 57	42 85		2,960 42
Bridgeburg ".....		935 60		935 60
Brockville ".....	60 00	1,477 61		1,537 61
" drill hall.....		47 43		47 43
Burford ".....	1,791 92			1,791 92
Carleton Place post office.....		568 63		568 63
Cayuga post office.....		22 40		22 40
Chatham armoury.....	5,001 82			5,001 82
" post office.....		382 68		382 68
Clinton post office.....		91 15		91 15
Cobourg armoury.....	1,761 74			1,761 74
" post office.....		204 18		204 18
Cornwall ".....		108 18		108 18
Dundas ".....		2 00		2 00
Fort William post office, &c.....		1,056 37		1,056 37
Galt post office.....	3,240 67	45 08		3,285 75
Gananoque custom house.....		165 63		165 63
" post office.....		591 67		591 67
Goderich ".....		322 81		322 81
Guelph armoury.....	24,200 21			24,200 21
" post office.....	5,122 91	19 00		5,141 91
Hamilton drill hall.....	24,382 57			24,382 57
" post office.....	533 59	199 05		732 64
Hawkesbury post office.....	1,671 88			1,671 88
Ingersoll ".....		26 50		26 50
Kenora ".....		34 85		34 85
Kingston custom house.....		319 18		319 18
" field battery stables.....	9,824 52			9,824 52
" military college.....		294 51		294 56
" stables.....	1,521 53			1,521 53
" military buildings, barracks for R. C. Field Artillery.....	14,912 86			14,912 86
" post office.....	982 55	228 75		1,211 30
Lindsay ".....		17 85		17 85
London custom house.....		423 67		423 67
" drill hall and armoury.....	232 27			232 27
" military buildings, new store building.....	18,526 50			18,526 50
" post office.....	15,639 17	251 62		15,890 79
Napanee ".....		4 00		4 00
Niagara Falls post office.....	900 00	23 00		923 00
North Bay ".....	4,444 66			4,444 66
Orangeville ".....	2,837 64	344 05		3,181 69
Orillia ".....		364 94		364 94
Oshawa ".....	4,331 25			4,331 25
Ottawa astronomical observatory.....	1,755 42			1,755 42
" " power for machinery.....			213 31	213 31
" bacteriological laboratory.....		155 54		155 54
" departmental buildings, reconstruction of Nepean stone facing.....		1,430 26		1,430 26
" departmental building (western).....	22,585 42			22,585 42
" Dominion archives building.....	38,001 08			38,001 08
" experimental farm.....	7,533 91	2,338 76		9,872 67
" government printing bureau, fire-proof addition to building, also additional story and new fire-proof roof.....	25,122 21			25,122 21
" Majors Hill Park.....			5,033 26	5,033 26
" National art gallery.....	8,841 65		632 05	9,473 70

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Staff and Maintenance.	Total.
PUBLIC BUILDINGS—Continued.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Continued.</i>				
Ottawa new departmental buildings (site)	332,253 24			332,253 24
" Parliament buildings, improvements	35,841 33			35,841 33
" post office, fittings and renewals.....	22,637 85	292 44		22,930 29
" " power for elevator.....			400 95	400 95
" Rideau Hall.....	36,292 63		24,167 40	60,460 43
" " grounds, \$4,340.82; snow, \$1-065.66; fuel and light, \$6,375; watchman, \$411.....			12,192 48	12,192 48
" Royal mint.....	65,149 11			65,149 11
" Supreme Court library	4,336 51			4,336 51
" Victoria Memorial Museum	44,835 76			44,835 76
" steel fittings and furniture.....	60,998 87			60,998 87
" generally, parliament grounds			11,594 36	11,594 36
" " power for elevators, &c.			4,107 86	4,107 86
" " removal of snow			3,648 88	3,648 88
" " repairs and furniture.....		152,982 44		152,982 44
" " telephone service			9,843 09	9,843 09
Owen Sound post office.....	403 54			403 54
Park Hill drill shed.....	304 50			304 50
" post office.....		2 25		2 25
Pembroke "		476 39		476 39
Peterboro' armoury	509 51			509 51
" custom house.....		435 51		435 51
" post office.....	2,470 76	89 09		2,559 85
Petrolia "		1 96		1 96
Pictou "		38 23		38 23
Port Arthur immigration building		18 06		18 06
" post office.....	1,624 35	32 90		1,657 25
Port Colborne "		386 09		386 09
Port Hope "		8 06		8 06
Prescott, Inland Revenue at distillery		60 00		60 00
" post office		126 05		126 05
Sandwich " &c	3,291 58			3,291 58
Sarnia " "		489 97		489 97
Sault Ste Marie post office.....		31 96		31 96
Simcoe "	67 52			67 52
Smith's Falls "		37 09		37 09
Stratford armoury.....	9,995 96			9,995 96
" post office.....		450 84		450 84
Strathroy "	1,119 34	2 40		1,121 74
St. Catharines drill hall	839 54			839 54
" post office.....	13 60	87 30		100 90
St. Mary's "	9,312 79			9,312 79
St. Thomas drill hall, grading grounds.....	1,976 90			1,976 90
" post office.....	6,491 25	41 90		6,533 15
Toronto, assistant receiver general's office		975 33		975 33
" barracks for permanent corps, to replace property sold to the city.....	15 65			15 65
" custom house, alterations and additions	26,935 47	476 54		27,412 01
" power for elevator.....			110 15	110 15
" drill hall, additional accommodation.....	75,023 43			75,023 43
" examining warehouse.....		315 00		315 00
" Engineer's office		33 12		33 12
" gas inspector's office.....		12 00		12 00
" post office, addition, alterations, furniture, fittings, &c., to make good damage by fire, April 29, 1906.....	25,043 75	2,081 54		27,125 29
" post office, pneumatic tube system	180 00			180 00
" " power for machine.....			219 31	219 31
" postal station A.....		295 05		295 05
" " power for machine.....			97 17	97 17
" " B.....		372 25		372 25
" " C.....		41 64		41 64

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Conservation and Im- provements.	Repairs and Furniture.	Staff and Mainte- nance.	Total.
PUBLIC BUILDINGS— <i>Continued.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Continued.</i>				
Toronto, postal station F.....	29,993 78	51 34		30,045 12
" " H.....		120 21		120 21
" postal division, power for machine.....			15 73	15 73
Toronto Junction post office ..		1 05		1 05
Trenton post office.....		704 75		704 75
Walkerton ".....		216 67		216 67
" armoury.....	24 94			24 94
Windsor ".....	6 25			6 25
" post office.....	1,771 56	648 28		2,419 84
Wingham post office.....	9,543 73			9,543 73
Woodstock armoury.....	11,378 09			11,378 09
" post office.....		182 43		182 43
Heating, lighting, water, &c., for all buildings in Ontario (for details see page 33).			291,155 53	291,155 53
Totals, Ontario.....	1,085,610 65	177,783 67	363,431 53	1,626,825 85
<i>Manitoba.</i>				
Brandon experimental farm.....	507 90	440 50		948 40
" immigrant shed.....		36 95		36 95
" post office.....		805 21		805 21
Dauphin Dominion lands office.....		189 10		189 10
" immigration shed.....		65 00		65 00
Neepawa post office.....	1,166 76			1,166 76
Portage la Prairie post office.....		1,567 52		1,567 52
Selkirk post office.....	158 33			158 33
St. Boniface post office.....	211 10			211 10
Winnipeg custom house.....		243 66		243 66
" Dominion lands office.....		145 44		145 44
" examining warehouse.....		433 56		433 56
" immigration building.....	46,967 58	57 80		47,025 38
" " power for machinery.....			4 00	4 00
" old immigration building improvements.....	4,985 72			4,985 72
" military buildings, stores.....	8,225 10			8,225 10
" quarters for non-commissioned officers.....	2,749 74			2,749 74
" post office (old).....		5,472 68		5,472 68
" " power for machine.....			102 00	102 00
" new post office, land and building.....	118,505 78			118,505 78
" post office north of C.P.R. track.....	549 64	22 35		571 99
Heating, lighting, water &c., for all buildings in Manitoba (for details see page 34.)			21,968 50	21,968 50
Totals, Manitoba.....	184,027 65	9,419 77	22,074 50	215,521 92
<i>Alberta and Saskatchewan.</i>				
Alameda Land Office.....	418 15			418 15
Battleford Dominion lands office.....		608 25		608 25
" immigration shed.....		6 00		6 00
Calgary post office, &c.....	30,122 25			30,122 25
" court house.....		43 46		43 46
" Engineer's office.....		30 40		30 40
" Dominion lands office.....		8 00		8 00
" post office.....		126 45		126 45
Carduff court house.....		4 85		4 85
Cattle quarantine corrals at various points.....	1,468 17			1,468 17
Edmonton Dominion lands and registry office.....		322 01		322 01
" immigration building.....	8,841 69	319 96		9,161 65
" inland revenue.....		40 00		40 00
" penitentiary.....	9,898 62			9,898 62
" post office.....	7,894 60			7,894 60
Humboldt lands office.....		62 06		62 06

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Construction and Im- provements.	Repairs and Furniture.	Staff and Mainten- ance.	Total.
PUBLIC BUILDINGS—Continued.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Alberta and Saskatchewan—Concluded.</i>				
Indian Head experimental farm	838 25	478 48		1,316 73
Lethbridge, Dominion lands office	82 75	82 75		82 75
" experimental farm	33 59			33 59
" immigrant shed		28 60		28 60
" post office		54 60		54 60
Lloydminster, immigration shed	1,072 70			1,072 70
Macleod court house		1 10		1 10
" custom house		8 80		8 80
Medicine Hat court house		11 75		11 75
" post office	3,767 58			3,767 58
Moosejaw post office	12,043 19	27 75		12,070 94
Moosomin, public building		2 00		2 00
" court house		18 30		18 30
Prince Albert, immigration building		165 00		165 00
" post office, &c.	19,999 22	7 50		20,006 72
Red Deer Dominion lands office		330 99		330 99
Regina court house		13 35		13 35
" clerk of works office		3 00		3 00
" Dominion lands				
" office, sanitary improvements and fittings	3,054 56	202 76		3,257 32
" post office, &c.	25,037 80	483 88		25,521 68
Saskatoon, immigrant building		558 85		558 85
" post office	175 87			175 87
Wolsley court house		38 95		38 95
Heating, lighting, water, &c., for all buildings in Alberta and Saskatchewan. (For details see page 35)			24,197 25	24,197 25
Totals, Alberta and Saskatchewan	124,666 24	4,089 85	24,197 25	152,953 34
<i>British Columbia.</i>				
Agassiz experimental farm		305 57		305 57
Atlin post office		68 00		68 00
Cumberland post office	736 75			736 75
Fernie "	507 78			507 78
Kamloops "		1,322 00		1,322 00
Ladysmith "	1,553 20			1,553 20
Nanaimo "		60 63		60 63
Nelson post office, &c.	1,441 20	431 09		1,872 29
New Westminster post office, &c.	12,188 57	1,019 34		13,207 91
Osoyoos post office	74 11			74 11
Roseland armoury	1,179 00	105 00		1,284 00
" post office		1,105 61		1,105 61
Vancouver examining warehouse		131 09		131 09
" immigrant shed		711 92		711 92
" post office (old) &c.		2,367 65		2,367 65
" " (new building)	99,979 27			99,979 27
Victoria old custom house				
" (marine and Indian offices)		109 00		109 00
" immigration shed		5 60		5 60
" post office &c.		939 14		939 14
" " power for elevator			159 84	159 84
" old post office		5 05		5 05
William's Head quarantine station, repairs, improve- ments, supplies &c.	9,195 40	297 50		9,492 90
Heating, lighting, water, &c., for all buildings in British Columbia (for details see page 35)			22,196 45	22,196 45
Totals, British Columbia	126,855 28	8,984 10	22,356 29	158,195 67

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Im- provements.	Repairs and Furniture.	Staff and Mainten- ance.	Total.
PUBLIC BUILDINGS—<i>Continued.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Yukon Territory.</i>				
Heating, lighting, water, &c., for all buildings in Yukon Territory (for details see page 35).....			63,659 06	63,659 06
PUBLIC BUILDINGS GENERALLY.				
Advertising tenders for coal, Dominion buildings ...			1,603 52	1,603 52
Printing, stationery, instruments, travelling &c.....			9,024 48	9,024 48
Salaries of resident clerks of works, &c....			13,283 51	13,283 51
Totals, public buildings generally.....			23,911 51	23,911 51

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS.					
<i>Nova Scotia.</i>					
Amaguadees Pond			245 96		245 96
Amherst Point wharf		3,784 93			3,784 93
Anderson's Cove breakwater.....		1,000 00			1,000 00
Annapolis			4,078 70		4,078 70
Apple River wharf		7,573 00			7,573 00
Arisaig breakwater			499 23		499 23
Avonport			599 77		599 77
Babin Cove			140 66		140 66
Baddeck wharf		222 23			222 23
Bailey's Brook channel protection.....		1,982 35			1,982 35
Barachois			326 22		326 22
Barrington Passage, improvement of passage		2,993 50			2,993 50
Barrington Passage, completion of wharf and extension of shed.		311 40			311 40
Battery Point breakwater.....		668 40			668 40
Baxter's harbour		745 54			745 54
Bayfield breakwater.....			1,799 73		1,799 73
Bear Cove breakwater.....		3,883 92			3,883 92
Beau River.....			338 35		338 35
Beaver River.....			99 49		99 49
Blue Rock breakwater.....			497 61		497 61
Boisdale wharf.....		995 41			995 41
Bourgeois Inlet.....		853 60			853 60
Breton Cove.....			80 00		80 00
Bridgewater removal of rocks.....		3,063 38			3,063 38
Broad Cove marsh.....			350 88		350 88
Canada Creek breakwaters.....		750 00			750 00
Charlo's Cove breakwater.....		251 79			251 79
Cheticamp harbour		5,052 33			5,052 33
Church Point.....		1,793 12			1,793 12
Country Harbour, rem. of obstructions		699 99			699 99
Cow Bay (Port Morien).....			8,447 57		8,447 57
Cribbins Point			941 21		941 21
Culloden.....		45 39			45 39
Delaps Cove.....			829 15		829 15
Digby		1,363 11			1,363 11
Drumhead.....		5,896 60			5,896 60
Feltzen South			238 61		238 61
Fort Lawrence.....		2,935 11			2,935 11
Freeport			1,762 50		1,762 50
Frude's Point.		1,503 66			1,503 66
Gabarus		566 56			566 56
Georgeville.....		1,499 87			1,499 87
Goosebay		1,506 43			1,506 43
Grand Narrows.....			956 51		956 51
Habitant River, wharf at Canning.....		8,740 54			8,740 54
Halifax graving dock.....				10,000 00	10,000 00
Hall's Harbour.....			1,628 71		1,628 71
Hampton			299 22		299 22
Hiltz Narrows.....		500 00			500 00
Hunt's Point		983 08			983 08
Indian Harbour.....			399 99		399 99
Iona.....			100 00		100 00
Janvrin's island			299 99		299 99
Jeddore		47 23			47 23
Jersey Cove or Eel Cove		189 09			189 09
Joggins Mines.....		862 13			862 13
Judique			138 30		138 30
Kelly's Cove		7,147 10			7,147 10
Labille Point.....			6 75		6 75
L'Ardoise			3,868 21		3,868 21
LaHave islands	1,097 00				1,097 00

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS—Con.					
<i>Nova Scotia—Continued.</i>					
Larry's River.....		793 51			793 51
Litchfield.....		499 50			499 50
Little Brook.....			2,400 00		2,400 00
Little Judique.....			261 24		261 24
Liverpool, removal of rocks.....		1,292 83			1,292 83
Livingstone's Cove.....			711 28		711 28
Mabou.....	5,323 44		1,416 92		6,740 36
McNair's Cove.....			244 58		244 58
Main-à-Dieu.....			274 56		274 56
Malagash.....		1,706 30			1,706 30
Marble Mountain.....		949 24			949 24
Margaree harbour.....			1,002 09		1,002 09
" Island.....			70 95		70 95
Meteghan Cove.....			784 16		784 16
" river, breakwater.....		538 00			538 00
Middle Country harbour.....		211 23			211 23
" River.....			747 57		747 57
Mill Cove.....		5,623 50			5,623 50
" Creek.....			360 21		360 21
New Campbellton, ballast wharf in Kelly's Cove.....		15,775 50			15,775 50
New Harbour breakwater at Black point.....			2,125 74		2,125 74
North East harbour.....		999 85			999 85
North Pond, Red islands.....	12,203 23				12,203 23
Parker's Cove.....		5,797 25			5,797 25
Parrsboro', harbour improvements.....		13,922 50			13,922 50
Peggy's Cove.....			195 65		195 65
Pereaux (Delhaven).....		2,796 99			2,796 99
Petite Rivière.....		5,683 56			5,683 56
Pictou bar.....	13,584 43				13,584 43
" I. C. R. wharf.....	1,921 12				1,921 12
Phinney's Cove.....		1,495 89			1,495 89
Pleasant Bay.....		7,835 00			7,835 00
Poirierville.....		65 13			65 13
Porter's Lake.....		129 60	139 04		268 64
Port George.....		330 83			330 83
" Greville.....			200 00		200 00
" Hood harbour.....	5,099 15	14,885 13	1,615 30		21,599 58
" la Tour.....		4,180 78			4,180 78
" Lorne.....		742 96			742 96
Pugwash.....		7,649 00			7,649 00
Ray's Creek.....		1,189 85			1,189 85
Rivière Hébert.....			26 00		26 00
Round Hill.....		1,997 41			1,997 41
Scotch Cove (White Cove).....		32 78			32 78
Scott's Bay.....		2,794 00			2,794 00
Sheet Harbour, wharf on West river.....		1,298 44			1,298 44
Skinner's Cove.....		1,759 91			1,759 91
Smithville, removal of rocks.....		890 00			890 00
Sydney quarantine station.....			249 19		249 19
" I. C. R. Coal Co.'s pier.....	8,356 26				8,356 26
" Whitney pier.....	281 12				281 12
Tatamagouche.....		810 27			810 27
Toney River.....		2,103 11			2,103 11
Tracadie.....			449 97		449 97
Victoria Beach.....		5,762 83			5,762 83
Wallace harbour.....		2,500 50			2,500 50
Weymouth.....		371 20			371 20
West Arichat.....		2,427 50	254 27		2,681 77
" Head (Cape Sable island).....		3,437 27			3,477 27
Western Head.....			70 95		70 95

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.
HARBOURS AND RIVERS—Con.					
<i>Nova Scotia—Concluded.</i>					
West Quoddy		2,487 63			2,487 63
Windsor	8,787 64				8,787 64
Wolfeville			224 68		224 68
Wreck Cove		500 00			500 00
Yarmouth	5,728 15	155 00			5,883 15
Generally	851 29			1,374 91	2,226 20
Totals, Nova Scotia	63,232 83	194,832 57	42,797 67	11,374 91	312,237 98
<i>Prince Edward Island.</i>					
Annandale pier			2,300 00		2,300 00
Bay Fortune			49 75		49 75
Brae harbour			1,098 74		1,098 74
Campbell's Cove			458 80		458 80
Charlottetown railway wharf	3,638 29				3,638 29
China Point pier			589 46		589 46
Crapaud (Victoria wharf)	7,679 06		1,695 96		8,375 02
Falconwood	3,885 94				3,885 94
Graham's Pond			699 39		699 39
Higgin's Shore pier		1,976 37			1,976 37
Hurd's Point		1,570 49			1,570 49
Kier's Shore		1,341 94			1,341 94
Lambert's			1,477 65		1,477 65
Miminigash		36 83			36 83
New London			604 45		604 45
North Cardigan			1 25		1 25
Pinette pier			1,000 60		1,000 60
Port Selkirk pier repairs			82 33		82 33
Point Prim Island wharf		501 58			501 58
Pownal	3,844 08				3,844 08
Rustico harbour, Robinson island		6,532 50			6,532 50
" " breakwater, (north side)			427 65		427 65
St. Peter's Bay, breakwater, (east side)		3,896 95			3,896 95
Stephen's pier			263 98		263 98
Souris, Knight's point		950 71			950 71
South River (Murray harbour)			610 78		610 78
Summerside		5,848 04			5,848 04
Tignish		489 50			489 50
Wood Island		1,250 99			1,250 99
Generally	425 64			341 51	767 15
Totals, P. E. Island	19,473 01	24,395 90	11,360 79	341 51	55,571 21
<i>New Brunswick.</i>					
Anderson's Hollow			98 17		98 17
Buctouche, channel thro' beach		1,998 82			1,998 82
Campbellton	10,354 33	20,757 07			31,111 40
Cape Tormentine		9,996 88			9,996 88
Caraquet wharf		2,590 10			2,590 10
Chance Harbour		548 60			548 60
Chockish		1,498 96			1,498 96
Clifton		1,999 99			1,999 99
Cocagne			396 68		396 68
Dalhousie		10,614 40			10,614 40
Dipper Harbour		23,964 74			23,964 74
Durham		5,529 00			5,529 00
Great Salmon river		2,859 95			2,859 95
Hopewell Cape			189 80		189 80
Little Salmon river		247 81			247 81

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS—Con.					
<i>New Brunswick—Cor.</i>					
Lord's Cove			179 43		179 43
Miscou.		2,540 00			2,540 00
Mispec.		82 65			82 65
North Head breakwater, Grand Manan.		2,249 17			2,249 17
Oak Point		209 96			209 96
Petit Rocher.		5,029 60			5,029 60
Point du Chêne.			8,420 78		8,420 78
Richibucto.		3,683 00			3,683 00
River Miramichi—					
Hutchin's wharf	\$ 939 00				
Northwest branch.	2,239 62				
		3,178 62			3,178 62
River St. John—					
Belyea's wharf	\$ 609 25				
Cedars.	661 29				
Colwell's Creek.	2,557 52				
Evansdale	67 18				
Hampstead.	401 36				
Oak Point.	1,979 05				
Victoria wharf.	2,448 40				
		8,724 05			8,724 05
River St. John, including tributaries—					
Aroostook to River de Chute.	\$ 99 00				
Cross Lake rapids.	300 00				
Edmundston wharf.	300 00				
Grand Falls.	100 00				
Grenier, Eddy's wharf.	600 00				
Iroquois river.	100 00				
Little Forks.	300 00				
Little River falls.	150 00				
Lower Lincoln	14 50				
Riley's Brook.	175 75				
Tobique river, McCaskill's					
Little Falls.	424 23				
Trouser's Lake.	500 00				
Miller's wharf	468 45				
Sisson's Falls.	200 00				
Victoria, Madawaska.	50 00				
Generally.	518 14				
		4,300 09			4,300 09
River St. John, wharfs, in tidal water;					
contribution to local government, half					
cost—					
Armstrong.	\$ 324 50				
Tooleton.	391 50				
Upper Sheffield.	617 32				
		1,333 32			1,333 32
St. Andrews, dredging.	9,599 46				9,599 46
St. John harbour, Navy island bar.	2,860 67				2,860 67
" Rodney slip	66,495 49				66,495 49
" Sand Point.	46,115 49				46,115 49
" Negro Point breakwater.	19,357 25				19,357 25
" protection work, Fort Dufferin			499 27		499 27
Shippegan harbour.		2,999 96			2,999 96
" wharf at terminal of					
Caraquet railway.		14,617 50			14,617 50
Tynemouth Creek.			7 55		7 55
Wilson's Beach (Campobello)		1,524 37			1,524 37
Generally.	851 29			1,374 90	2,226 19
Totals, New Brunswick	148,179 40	140,533 19	9,791 68	1,374 90	299,879 17

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS.					
<i>Quebec.</i>					
Anse à Beaufils.....			288 66		288 66
" à la Cave.....			200 88		200 88
" à l'Illet.....		2,999 57			2,999 57
" aux Gascons.....			1,024 85		1,024 85
" " Griffons.....		1,341 74			1,341 74
" du Cap (Cape Cove) breakwater..		4,965 51			4,965 51
" St. Jean pier.....			1,014 68		1,014 68
Baie des Bacons.....			232 13		232 13
Baie St. Paul, wharf at Cap aux Corbeaux.....		3,587 29			3,587 29
Barachois de Malbaie.....		4,607 82			4,607 82
Beauharnois.....	22,617 95				22,617 95
Beloil.....	502 36		937 52		1,439 88
Berthierville.....	10,534 46				10,534 46
Bie Harbour, wharf at Pointe à Côte..		5,969 64			5,964 64
Bonaventure.....			400 00		400 00
Boucherville.....			243 67		243 67
Buckingham.....	621 13				621 13
Cannes de Roches (Corner of the Beach)		2,023 64			2,023 64
Canton Fabre (Lake Temiskaming) wharf.....		2,019 36		10 00	2,029 36
Cap à l'Aigle.....			455 22		455 22
Caplin.....			699 96		699 96
Caplin (Robicheaud's approach to beach)		500 00			500 00
Carleton.....			236 63		236 63
Chambly Basin.....	2,489 27				2,489 27
Chateauguay.....	6,084 45	1,485 61			7,570 06
Chicoutimi.....		4,801 10	136 95		4,938 05
Clarke City, Seven Islands.....		15,383 44			15,383 44
Como.....	16,539 20				16,539 20
Côte Ste Catherine.....		1,379 31			1,379 31
Cross Point.....		4,963 14			4,963 14
Deschambault.....		2,835 76			2,835 76
Desjardins (Allumette Island.).....		2,991 28			2,991 28
D'Israeli.....		706 84			706 84
Doucet's Landing.....	28,775 88	468 28			29,244 16
Douglastown.....		283 12			283 12
East Templeton.....		51 07			51 07
English River.....			1,810 14		1,810 14
Escoumains.....		607 20			607 20
Fassett.....	965 30				965 30
Father Point.....			7,387 95		7,387 95
Gatineau Point, wharf and protection wall.....			2,306 45		2,306 45
Graham.....	78 00		377 56		455 56
Grandes Bergeronnes.....			562 99		562 99
Grande Rivière de Beauré.....		6,625 07			6,625 07
Grande Rivière de Gaspé.....			648 15		648 15
Grands Mechins.....		291 56			291 56
Grande Vallée.....			140 00		140 00
Grondines.....		2,508 68			2,508 68
Grosse Isle Quarantine Station, wharf extension.....		548 25			548 25
Hull.....				137 00	137 00
Iberville.....			140 84		140 84
Isle aux Noix.....	6,410 25		232 25		6,642 50
" Foins.....	26,013 75				26,013 75
Isle Perrot, wharf on South Side.....			856 07		856 07
Isle Verte.....		1,199 99			1,199 99
Jersey Cove.....			198 93		198 93
Lac à Beaulieu.....			208 25		208 25
Lachine.....			1,277 63		1,277 63
Lanoraie.....			262 67		262 67

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.
HARBOURS AND RIVERS.					
<i>Quebec—Con.</i>					
Lake Nominique wharfs.....		597 42	54 97		652 39
Lake St. John piers:—					
Roberval.....	\$1,897 85				
Rivière du Moulin.....	676 22				
Generally.....	670 01				
			3,244 08		3,244 08
Lake St. John dredging—Roberval.....	4,897 94				4,897 94
Lake St. Francis (Beauce) wharfs:—					
Coleraine.....	8 249 91				
Lambton.....	2,764 23				
		3,014 14			3,014 14
Laprairie ice piers, &c.....		13,500 00			13,500 00
L'Assomption.....	6,670 50				6,670 50
Lavaltrie.....		43 15			43 15
Les Eboulements.....			892 56		892 56
Les Ecurcuils.....			653 71		653 71
Le Tableau, descente des Femmes.....		2,498 63			2,498 63
Levis graving dock.....				10,344 19	10,344 19
L'Île d'Alma—Removal of rocks.....		996 52			996 52
Little Cape.....			100 00		100 00
Little Lake Escomains.....			323 20		323 20
Longueuil.....			6,905 04		6,905 04
Lotbinière.....		1,233 05			1,233 05
Lower St. Lawrence:—					
Anse du Cap.....	\$100 00				
La Fonderie.....	100 00				
Ruisseau Pelletier.....	100 00				
			300 00		300 00
Magdalen Island breakwaters and piers:					
Anherst.....	\$1,050 19				
Bassin.....	1,191 31				
Grande Entrée.....	2 70				
Grindstone.....	4,547 98				
Pointe à Elie.....	7,031 10				
		13,823 28			13,823 28
Maguasha.....			299 57		299 57
Marsouin.....		2,006 35			2,006 35
Masson.....		3,753 51			3,753 51
Mille Vaches.....		5,018 68			5,018 68
Mistook (Delisle).....		1,995 06			1,995 06
Mont Louis.....			36 61		36 61
Montmagny, wharf on the Bassin.....		355 50			355 50
Montmorency Falls, cribwork revetment wall.....		3,256 27			3,256 27
Montreal harbour.....		18,229 82			18,229 82
Murray Bay.....			688 19		688 19
New Carlisle.....		11,386 19			11,386 19
Newport.....			261 36		261 36
Nicolet.....	3,960 15		5,064 75		9,024 90
Notre Dame du Portage.....		5,799 50			5,799 50
Oka.....	10,741 50				10,741 50
Papineauville.....	200 00				200 00
Paspébiac.....			2,487 92		2,487 92
Peel Head Bay.....		9,311 56			9,311 56
Percé Wharf (North cove).....		12,994 00			12,994 00
Petite Bergeronnes.....		972 20			972 20
Pierreville.....	863 15				863 15
Pointe aux Esquimaux.....			567 07		567 07
" aux Trembles (Portneuf).....		5,376 27			5,376 27
" Claire.....			150 00		150 00
" St. Pierre.....		3,652 24			3,652 24
" Valois.....			964 95		964 95
Port Daniel.....			901 28		901 28

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS— <i>Con.</i>					
<i>Quebec—Continued.</i>					
Portneuf wharf.....		2,983 44			2,983 44
Port St. Francis.....	324 00				324 00
Quebec harbour.....	7,387 62	144,017 35			151,404 97
Repentigny.....		5,079 00			5,079 00
Rigaud.....	8,669 70				8,669 70
Rimouski.....	17,724 80	20,749 31			38,474 11
Rivers Ashouapmouchouan and Peri- bonka—					
Peribonka.....	\$ 1,144 71				
St. Felicien.....	1,638 75				
St. Prime.....	2,164 48				
Generally.....	45 00				
		4,992 94			4,992 94
Rivière aux Renards.....		5,423 50			5,423 50
" à la Pipe.....		2,981 06			2,981 06
" Bas de Soie.....			508 75		508 75
" Batiscan (mouth).....	7,749 37				7,749 37
" Blanche.....			1,499 97		1,499 97
" du Lièvre, lock.....			532 90	4,455 49	4,988 39
" du Lièvre, dredging.....	861 20				861 20
" des Vases.....		1,494 68			1,494 68
" du Loup (Fraserville).....		3,741 04			3,741 04
" du Loup (en haut), dredging and improvements at mouth.....	15,778 25				15,778 25
" Godefroy.....	9,372 25	4,406 00			13,778 25
" Jesus.....	8,088 50		232 61		8,321 11
" Maskinongé.....	7,512 16				7,512 16
" Ouelle.....	866 57		9,990 30		10,356 87
" Ottawa (Blanche shoals).....	26,375 84				26,375 84
" Richelieu, ice piers.....		767 36			767 36
" Saguenay, dredging.....	35,029 55				35,029 55
" St. Francis.....	10,525 68	629 20			11,154 88
" St. Louis, improvements.....	4,297 92	2,848 81		100 65	7,247 38
" St. Maurice, channel between Grande Piles and La Tuque.....	9,198 08				9,198 08
" St. Maurice, dredging channels at mouth.....	21,955 51				21,955 51
" Verte, improvements at mouth.....		999 75			999 75
Sabrevois.....			104 51		104 51
Sault au Mouton.....			476 03		476 03
St. Alexis.....			43 78		43 78
St. Alphonse (de Bagotville).....		977 08			977 08
St. Anicet.....			931 85		931 85
St. André de Kamouraska.....			1,196 28		1,196 28
St. Andrews.....	18,213 05				18,213 05
Ste. Anne de Chicoutimi.....		1,016 30			1,016 30
Ste. Anne des Monts.....		4,999 76			4,999 76
St. Blaise.....		575 84			575 84
St. Charles Borromée.....		3,007 52			3,007 52
St. Denis.....	555 23				555 23
Ste. Emelie.....			157 09		157 09
St. Fidele.....			289 21		289 21
St. François, Island of Orleans.....		16,031 10			16,031 10
St. François de Sales.....			130 51		130 51
St. Fulgence.....		3,001 25			3,001 25
St. Ignace de Loyola.....			163 91		163 91
St. Irénée.....			1,839 68		1,839 68
St. Jean des Chaillons.....		14,387 70			14,387 70
St. Jean, Island of Orleans.....	633 60	283 63			917 23
St. Laurent, Island of Orleans.....			926 10	3 00	929 10
St. Placide.....	19,985 21				19,985 21
St. Simeon.....		1,669 22	573 17		2,242 39
St. Sulpice.....		2,300 00			2,300 00

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS—<i>Con.</i>					
<i>Quebec—Continued.</i>					
St. Timothée.....			1,589 39		1,589 39
St. Valier.....		248 79			248 79
St. Zotique.....			1,752 53		1,752 53
Sorel, deep water wharf.....		408 62			408 62
" ice piers.....		2,590 55			2,590 55
" dredging.....	1,021 02				1,021 02
Tadoussac.....			313 14		313 14
Terrebonne.....			111 37		111 37
Three Rivers harbour.....		57,897 34			57,897 34
Thurso.....	352 09				352 09
Trois Pistoles.....			2,599 84		2,599 84
Verdun.....			1,224 98		1,224 98
Ville Marie (Lake Temiskaming).....	1,464 82	1,779 05			3,243 87
Yamaska Lock-dam.....			1,590 84	1,224 13	2,814 97
" River, dredging.....	6,244 74				6,244 74
Generally.....	19,498 28			9,026 08	28,524 36
Totals, Quebec.....	408,150 28	507,244 80	74,955 03	25,300 54	1,015,650 65
<i>Ontario.</i>					
Amherstburg, improvement of channel.....	7,913 34	1,406 49			9,319 83
Belle River, dredging channel.....	2,556 50				2,556 50
Belleville.....	3,375 74				3,375 74
Barrie (Allandale).....			300 77		300 77
Bayfield.....			795 61		795 61
Beaverton.....	3,266 50	494 93			3,761 43
Blanche River.....		5,574 98			5,574 98
Blind River.....	947 20				947 20
Bracebridge.....			427 40		427 40
Bronte.....		2,199 00			2,199 00
Bruce Mines.....			100 00		100 00
Burlington channel.....			5,241 59	1,435 39	6,676 98
Cobourg.....	5 65		1,955 29		1,960 94
Colchester.....		1,596 68			1,596 68
Collingwood.....	123,073 88				123,073 88
Collingwood graving dock.....				15,000 00	15,000 00
Cumberland.....		1,186 76			1,186 76
Echo Bay.....		400 00			400 00
Fort William (Kaministiquia River).....	145,944 59				145,944 59
Goderich.....	17,957 96	1,854 68			19,812 64
Graham's Bay.....			260 30		260 30
Grand Bend.....			699 64		699 64
Haileybury (Lake Temiskaming).....		1,171 20		20 00	1,191 20
Hamilton.....	1,893 49	30,996 93			32,890 42
Hawkesbury.....	143 44				143 44
Head River.....			18 00		18 00
Honora.....			211 66		211 66
Jeannette's Creek.....	8,800 75	3,603 27			12,404 02
Jordan Harbour, steel bridge.....		1,575 00	445 48		2,020 48
Kincardine harbour.....	489 00		999 96		1,488 96
Kingston graving dock.....				4,213 41	4,213 41
Kingsville.....	1,894 22		256 40		2,150 62
Leamington.....			25 00		25 00
Little Current.....	144,436 70				144,436 70
Magnet channel.....		833 91			833 91
Mallorytown.....			1,307 05		1,307 05
McGregor's Creek.....			2,466 13		2,466 13
Matchedash Bay—Channel between Fesserton and Waubauchene.....	11,253 04				11,253 04
Meaford.....	13,709 12				13,709 12
Midland Harbour.....	69,398 80		533 86		69,932 66

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
HARBOURS AND RIVERS—Con.					
<i>Ontario—Con.</i>					
Mitchell's Bay		1,100 40			1,100 40
Monetville, Lake Nipissing		882 58			882 58
Newcastle			299 05		299 05
New Liskeard	2,268 50				2,268 50
Nigger Island Channel (Bay of Quinté)	10,835 90				10,835 90
North Port	9,658 80				9,658 80
Oliphant		598 77			598 77
Orillia			19 00		19 00
Ottawa River (opposite South Nation)	2,909 30				2,909 30
Owen Sound	15,220 34				15,220 34
Parry Sound		1,499 63			1,499 63
Parry Sound Island			2,495 09		2,495 09
Pembroke			78 09		78 09
Penetanguishene	13,500 00				13,500 00
Point Edward	17,227 22				17,227 22
Port Arthur	67,990 91			1,402 50	69,393 41
Port Colborne		22,653 73			22,653 73
Port Burwell	31,190 78	11,651 13			42,841 91
Port Bruce	2,122 00		2,877 83		4,999 83
Port Dover	4,066 80		640 93		4,707 73
Port Elgin	3,199 50				3,199 50
Port Hope			3,259 49		3,259 49
Port Maitland	110 00				110 00
Port Stanley	6,587 99	31,586 50	6,068 95		44,243 44
Rainy River	258 05				258 05
Rama		362 33			362 33
River Otonabee	6,999 58				6,999 58
Roach's Point		2,052 88			2,052 88
Rockland	295 10				295 10
Rondeau Harbour	5,609 82		4,500 00		10,109 82
Rosseau		1,800 00			1,800 00
Sarnia	2,979 04				2,979 04
Saugeen River	4,325 00	672 94			4,997 94
Sault Ste. Marie		6,322 66			6,322 66
Savern River at McDonald's Chute		1,098 59			1,098 59
Savern River at Washago		1,451 04			1,451 04
Silverwater, Manitoulin Island		3,640 47			3,640 47
Sheguindah			374 91		374 91
Southampton			114 45		114 45
South Nation River	200 00				200 00
St. Mary's River	834 02				834 02
St. Joseph, Lake Huron			252 50		252 50
Sturgeon Falls	6,112 76				6,112 76
Sydenham River	3,680 00				3,680 00
Toronto harbour, eastern entrance	7,358 92	3,243 33	3,070 47		13,672 72
" balance due Murray & Cleveland		63,685 14			63,685 14
Treadwell		2,704 92			2,704 92
Trenton, dredging, Trent River	10,081 37				10,081 37
Wampooos East (Bay of Quinte)	1,029 90				1,029 90
Wendover		1,956 33			1,956 33
Warton		2,907 70			2,907 70
Wolfe Island			192 93		192 93
Generally	8,689 55			3,359 94	12,049 49
Totals, Ontario	802,401 67	214,764 90	40,287 83	25,431 24	1,082,885 64
<i>Manitoba.</i>					
Assiniboine River	2,004 40				2,004 40
Gypsumville	5,321 41				5,321 41
Lake Francis, outlet		271 40			271 40

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.
HARBOURS AND RIVERS—Con.					
<i>Manitoba—Con.</i>					
Red River, channel at mouth.....	11,173 27	477 35			11,650 62
" St. Andrew's Rapids.....		97,213 14			97,213 14
Selkirk Wharf.....		3,067 91			3,067 91
West Selkirk.....	990 94				990 94
Winnipegosis, dredging channel, mouth of Mossy River.....	4,537 04				4,537 04
Winnipeg River, Manitou Rapids.....		30 00			30 00
Generally.....				1,796 64	1,796 64
Totals, Manitoba.....	24,027 06	101,059 80		1,796 64	126,883 50
<i>Saskatchewan and Alberta.</i>					
Last Mountain Lake.....		2,549 81			2,549 81
Lesser Slave River.....		654 62			654 62
North Saskatchewan River, survey.....		551 69			551 69
Generally.....				500 26	500 26
Totals, Saskatchewan and Alberta.....		3,756 12		500 26	4,256 38
<i>British Columbia.</i>					
Campbell River.....		2,917 78			2,917 78
Columbia River—					
Above Golden.....	8 2,484 26				
Below ".....	66 42				
At Revelstoke.....	26,923 36				
At Arrow Head.....	522 65				
Coquitlam River.....		29,996 69			29,996 69
Courtney River.....		953 78			953 78
Esquimalt, graving dock.....		2,995 25			2,995 25
Fraser River, ship channel.....	30,925 25	19,984 13		10,130 21	10,130 21
" between Quesnel and Soda Creek.....					50,913 38
Ladysmith.....		1,910 02			1,910 02
Kennedy Lake.....		3 85			3 85
Kootenay River, between Kootenay Landing and international boundary.....		1,430 57			1,430 57
North Thompson River.....		1,937 98			1,937 98
Sidney Island.....		874 87			874 87
Skeena River.....		1,998 70			1,998 70
South Thompson River, removal of bars.....		4,722 24			4,722 24
Victoria harbour.....	26,096 14	4,940 19			4,940 19
William's Head, quarantine station.....			7,425 61		7,425 61
Generally.....				2,101 14	2,101 14
Totals, British Columbia.....	57,025 39	74,666 05	7,425 61	12,231 35	151,348 40
<i>Yukon Territory.</i>					
No expenditure.....					
<i>Harbours and Rivers Generally.</i>					
General expenses of staff, &c.....	3,450 70			6,032 48	9,483 18

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
DREDGES AND DREDGING PLANT.					
Maritime Provinces		192,660 40	*266 50		192,926 90
Ontario and Quebec		86,948 61	43,168 24		130,116 85
Manitoba		8,616 47	2,547 23		11,163 70
British Columbia		84,041 69	20,339 80		104,381 49
Totals, dredges and dredging plant.		372,267 17	66,321 77		438,588 94
SLIDES AND BOOMS.					
River Richelieu (Belœil)				122 45	122 45
" Saguenay		2,117 81		4,792 85	6,910 66
" St. Maurice		29,863 22		29,473 39	59,336 61
<i>Ottawa District.</i>					
Black River			16 56		16 56
Coulonge River			9 80		9 80
Gatineau River			4,506 14		4,506 14
Madawaska River			81 97		81 97
Ottawa River			1,232 57	19,214 53	20,447 10
Petewawa River			4,298 29		4,298 29
River du Lièvre			66 75		66 75
Newcastle District			247 92	83 33	331 25
Collection of Slide and Boom Dues				2,508 50	2,508 50
Totals, Slides and Booms		31,981 03	10,460 00	56,195 05	98,636 08
ROADS AND BRIDGES.					
<i>Ontario and Quebec.</i>					
Bryson Bridge, Ottawa River		3,180 32			3,180 32
Portage du Fort Bridge over the Ottawa			5 59		5 59
<i>Ottawa City, Bridges and Streets maintained by Government.</i>					
Chaudière bridges and approaches			1,620 22		1,620 22
Laurier Bridge			10 44		10 44
Sappers and Dufferin Bridges and Wellington Street			5,994 14	4,075 28	10,069 42
Lighting all the above				1,966 81	1,966 81
<i>Northwest Provinces and British Columbia.</i>					
Battleford Bridge, Sask.		1,895 69			1,895 69
Calgary, Langevin Bridge, Alta.			93 85		93 85
Edmonton Bridge, Alta.			2,946 28		2,946 28
Shellmouth Bridge, Man.		20,164 08			20,164 08
Whitemouth Road		2,508 85			2,508 85
Totals, Roads and Bridges		27,748 94	10,670 52	6,042 09	44,461 55

* A further sum of \$22,862.52 expended for repairs to dredges in the Maritime Provinces, considere as inseparable from working expenses, has been apportioned with the cost of dredging the various harbour in the Maritime Provinces. See pp. 15 to 18.

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
TELEGRAPH LINES.				
<i>Newfoundland.</i>				
Cape Ray (subsidy).....			250 00	250 00
<i>Nova Scotia.</i>				
Barrington Passage to Newellton.....	300 00			300 00
Cape Breton lines.....	4,360 40		9,215 94	13,576 34
<i>Prince Edward Island.</i>				
Prince Edward Island and Mainland (subsidy).....			920 33	920 33
<i>New Brunswick.</i>				
Bay of Fundy line.....			1,569 29	1,569 29
Escuminac line.....			216 00	216 00
<i>Quebec (Mainland.)</i>				
Father Point (subsidy).....			500 00	500 00
North Shore St. Lawrence, east of Bersimis.....	1,101 50	2,972 01	14,100 44	18,173 95
" " west ".....	5,683 45	724 36	1,327 16	7,734 97
Saguenay River lines, northeast side.....	983 00		4,806 28	5,789 28
" " southwest side.....	401 94	801 92	4,806 28	6,010 14
<i>Quebec (Islands.)</i>				
Anticosti.....			4,073 74	4,073 74
Belle Isle (Marconi system).....	3,042 60			3,042 60
Grosse Isle. (Two Marconi Stations).	3,500 00			3,500 00
" cable and wire line.....			2,948 76	2,948 76
Isle aux Coudres (subsidy).....			150 00	150 00
Magdalen Island lines.....			1,975 19	1,975 19
Cable Ship, <i>Tyrian</i>		38,535 91	29,774 90	68,310 81
Generally, Gulf and Maritime Provinces.....			8,034 28	8,034 28
<i>Ontario.</i>				
Pelee Islands.....		524 75	236 21	760 96
<i>Saskatchewan and Alberta.</i>				
Moose Jaw-Wood Mountain.....		417 75		417 75
Qu'Appelle-Edmonton-Athabaska.....	515 15	991 30	27,223 00	28,729 45
<i>British Columbia and Yukon.</i>				
Alberni-Cape Beale.....			382 45	382 45
Alberni-Clayoquot.....			3,258 45	3,258 45
Ashcroft-Dawson.....		6,015 63	163,747 71	169,763 34
Golden-Windermere.....			2,188 28	2,188 28
Kamloops-Nicola-Penticton.....	2,167 40		9,642 35	11,809 75
Nanaimo-Comox.....			3,756 87	3,756 87
Vancouver-Salt Spring.....			249 90	249 90
Victoria-Cape Beale.....			5,359 75	5,359 75
Generally, B. C.....			1,293 41	1,293 41
Telegraph service, Generally.....			1,559 44	1,559 44
Totals, Telegraphs.....	22,055 44	50,983 63	303,566 41	376,605 48

SESSIONAL PAPER No. 19

PART II.—STATEMENT A.—EXPENDITURE—Continued.

Name of Work.	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
MISCELLANEOUS.				
Arbitration and awards.....			1,750 00	1,750 00
Cement testing laboratory.....	3,759 31			3,759 31
Surveys and Inspections—				
Georgian Bay to Montreal, waterway			99,508 07	99,508 07
Ottawa River, headwaters and tributaries.....			1,849 00	1,849 00
Generally.....			44,606 95	44,606 95
Non-permanent staffs—				
Secretary and Accountant's Branch.....			46,119 33	46,119 33
Chief Architect's Branch.....			37,269 26	37,269 26
Chief Engineer's Branch.....			95,354 54	95,354 54
Telegraph Service Branch.....			4,833 30	4,833 30
Public Works Agency, B. C.			979 93	979 93
Technical and other books of reference.....			391 82	391 82
Transportation Commission.....			750 00	750 00
Deep Waterways Commission.....			11,997 07	11,997 07
Grosse Isle Quarantine Steamer <i>Challenger</i> recon- struction.....		2,167 31		2,167 31
<i>Gratuities.</i>				
Widow of Capt. John Devereux.....			1,000 00	1,000 00
Children of the late Mme. E. J. Blain de St. Aubin.....			91 66	91 66
Children of the late P. Purcell.....			200 00	200 00
Widow of the late John Boyd.....			66 67	66 67
" J. M. Draper.....			133 33	133 33
" M. Desjardins.....			183 33	183 33
" J. A. Parr.....			183 33	183 33
Catherine A. Davis, widow of late J. A. Davis.....			500 00	500 00
Emma Ryder, mother of the late W. E. Ryder.....			500 00	500 00
Totals, Miscellaneous	3,759 31	2,167 31	348,267 59	354,194 21

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging	Construction and Im- provements.	Repairs.	Staff and Main- tenance.	Total.
RECAPITULATION.	8 cts.	8 cts.	8 cts.	8 cts.	8 cts.
Totals, Public Buildings—					
Nova Scotia		124,618 15	7,425 42	26,675 54	158,719 13
Prince Edward Island		7,310 43	1,534 77	5,618 82	14,464 02
New Brunswick		35,458 77	10,401 89	26,229 73	72,090 39
Quebec		172,083 90	30,682 55	95,606 33	298,372 78
Ontario		1,085,610 65	177,783 67	363,431 53	1,626,825 85
Manitoba		184,027 65	9,419 77	22,074 50	215,521 92
Alberta and Saskatchewan		124,666 24	4,089 85	24,197 25	152,953 34
British Columbia		126,855 28	8,984 10	22,356 29	158,195 67
Yukon				63,659 06	63,659 06
Public buildings generally				23,911 51	23,911 51
Totals, Harbours and Rivers—					
Nova Scotia	63,232 83	194,832 57	42,797 67	11,374 91	312,237 98
Prince Edward Island	19,473 01	24,395 90	11,360 79	341 51	55,571 21
New Brunswick	148,179 40	140,533 19	9,791 68	1,374 90	299,879 17
Quebec	408,150 28	507,244 80	74,955 03	25,300 54	1,015,650 65
Ontario	802,401 67	214,764 90	40,287 83	25,431 24	1,082,885 64
Manitoba	24,027 06	101,059 86		1,796 64	126,883 50
Alberta and Saskatchewan		3,756 12		500 26	4,256 38
British Columbia	57,025 39	74,666 05	7,425 61	12,231 35	151,348 40
Yukon					
Harbours and rivers generally	3,450 70			6,032 48	9,483 18
Totals, dredges and dredging plant		372,267 17	66,321 77		438,588 94
" slides and booms		31,981 63	10,460 00	56,195 05	98,636 08
" roads and bridges		27,748 94	10,670 52	6,042 09	44,461 55
" telegraph lines		22,055 44	50,983 63	303,566 41	376,605 48
" miscellaneous		3,759 31	2,167 31	348,267 50	354,194 21
Grand totals of expenditure ..	1,525,940 34	3,579,696 33	577,543 86	1,472,215 53	7,155,396 06

ADJUSTMENT WITH PUBLIC ACCOUNTS.

Total Public Works Capital as per Public Accounts 1906-07, part iii. page 38	8	1,797,871 16
Less River St. Lawrence Ship Channel, administered by Dept. Marine and Fisheries		619,860 55
	8	1,178,010 61
Total Public Works, Income (Public Accounts, part iii. p. 51)		5,520,571 42
" Revenue (" " 56)		456,814 03
Grand total	8	7,155,396 06

SESSIONAL PAPER No. 19

PART II.—STATEMENT B.—Showing the Cost of the following Services for each Public Building, &c. (the total for each Province being carried into statement 'A').

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
<i>Nova Scotia.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Amherst post office, &c.		345 83	353 08	106 40	16 00	821 31
Annapolis post office, &c.		333 30	184 49	110 25	20 00	648 04
Antigonish post office, &c.		322 69	263 63	40 71	5 00	632 03
Aricbat post office, &c.		125 00	155 30			280 30
Baddeck post office, &c.		220 20	215 20	33 50		468 90
Dartmouth post office.		210 30	81 00	104 96	27 40	423 66
Digby post office, &c.		363 50	235 00	208 56	33 16	840 72
Guysboro' post office, &c.		41 60	185 80	27 65		255 05
Halifax Asst. Receiver General's office.	417 40	52	71 55	55 08		544 03
" Appraiser's office.	500 00	352 45	189 40	49 13	79 31	1,170 29
" custom house (new).		269 69	218 77			488 46
" Dominion building.		2,590 39	421 89	1,631 02	348 01	4,991 31
" drill shed.		950 00				950 00
" Engineer's office.	187 25					187 25
" immigrant shed.		495 00	500 14	607 40		1,602 54
" immigration detention building (Trachoma).	162 50		545 75	61 19		769 44
Kentville post office, &c.		341 20	103 08	120 00	50 00	614 28
Liverpool post office, &c.		346 96	185 00	124 34	13 50	669 80
Lunenburg post office, &c.		250 00	212 75	77 55	44 25	584 55
Nappan experimental farm.			83 57			83 57
New Glasgow post office, &c.		338 30	220 43	284 61	50 00	893 34
North Sydney post office, &c.		333 30	236 80	684 34	24 00	1,278 44
Pictou custom house.		5 27	216 75	15 40	25 00	262 42
" post office.		440 22	191 45	166 11	25 00	822 78
Springhill post office, &c.		410 97	227 40	170 60	30 00	838 97
Sydney post office, &c.		433 83	326 00	1,055 33	58 00	1,873 16
Sydney Mines post office, &c.		359 58	142 20	181 04	30 00	712 62
Truro post office, &c.		356 17	244 13	284 58	30 00	914 88
Windsor post office, &c.		347 02	271 43	218 65	25 00	861 50
Yarmouth post office, &c.		334 10	369 00	452 80	36 00	1,191 90
Totals for Nova Scotia (carried to Statement A, page 7).....	1,267 15	10,916 67	6,650 99	6,870 60	970 13	26,675 54
<i>Prince Edward Island.</i>						
Charlottetown Dominion building.		2,310 01	671 37	871 61	168 75	4,021 74
" Engineer's office.	122 00		6 70			128 70
Montague post office, &c.		144 81	245 34	23 59		413 74
Souris post office, &c.		96 88	149 27			246 15
Summerside post office, &c.		357 67	358 88	91 94		808 49
Totals for P. E. Island (carried to Statement A, page 7).....	122 00	2,909 37	1,431 56	987 14	168 75	5,618 82
<i>New Brunswick.</i>						
Bathurst post office, &c.		398 16	337 33	641 15		1,376 64
Campbellton post office, &c.		333 30	431 18	194 40	34 02	992 90
Carleton, St. John West, post office, &c.		90 85	63 15	31 97	8 50	194 47
Chatham post office, &c.		250 00	426 29	290 12	13 50	979 91
Dalhousie post office, &c.		346 65	292 95	26 58		666 18
Fredericton post office, &c.		370 10	415 16	755 06	25 50	1,565 82
Marysville post office, &c.		125 00	27 28	21 90		174 18
Moncton post office, &c.		339 30	281 29	330 63	100 50	1,051 72
Newcastle post office, &c.		333 30	368 86	133 03	74 85	910 06

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT B.—EXPENDITURE—Continued.

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>New Brunswick.—Concluded.</i>						
Richibucto post office, &c.		337 30	207 00	176 14		720 44
St. John custom house.		1,653 96	1,717 97	426 85	499 32	4,298 10
" cattle quarantine.		277 00			406 83	683 83
" detention hospital.		277 00				277 00
" immigrant building.	526 33	900 00	1,522 73	355 25	19 70	3,324 01
" post office.		1,549 87	777 09	2,266 35	472 33	5,065 64
" savings bank.		3 00	288 42	91 41	13 14	395 97
Tracadie lazaretto.		180 00	936 64			1,116 64
St. Stephen's post office, &c.		340 88	157 50	231 60	48 00	777 98
Sussex post office, &c.		251 75	361 70	86 48	25 00	724 93
Woodstock post office, &c.		361 50	169 34	106 67	17 00	654 51
" armoury.		275 80	3 00			278 80
Totals for New Brunswick (carried to statement A, page 8)...	526 33	8,994 72	8,784 88	6,165 61	1,758 19	26,229 73
<i>Quebec.</i>						
Acton Vale post office.		379 10	224 70	175 00	12 00	790 80
Aylmer post office.		83 30	278 79	86 80	24 75	473 64
Berthierville post office.		69	141 34	74 20	32 00	248 23
Buckingham "		109 50	214 28	67 10	27 90	418 78
Coaticook "		345 50	279 30	131 61	40 00	796 41
Drummondville post office.		302 48	168 75	100 00	8 75	579 98
Dundee custom house.			33 75			33 75
Fraserville post office, &c.		336 02	402 50	57 91	150 00	946 43
Granby post office, &c.		259 76	243 70	141 64	150 00	795 10
Grosse Isle quarantine station.			14 50			14 50
Hochelega post office.		166 60	161 50	119 72	61 14	508 96
Farnham "		87 80	106 70	71 10	10 00	275 60
Hull "		125 00	233 00	346 96	127 65	832 61
Joliette "		345 49	252 09	63 10	54 00	714 68
Lachine "		82 37	155 10	53 00	22 14	312 61
Laprairie "		139 43	174 35	11 70	45 00	370 48
L'Assomption "		208 21	158 50	129 89	50 00	546 60
Longueuil "		256 11	170 00	129 28	20 81	576 20
Montmagny "	414 00	89				414 89
Montreal						
" Clerk of Works.	57 75	5 50				63 25
" Civil Service Exam. office.	150 00					150 00
" custom house.	4 00	2,992 68	909 35	598 54	452 11	4,956 68
" Dominion public buildings.		1,275 04				1,275 04
" drill hall.		700 00				700 00
" Engineer's office.	645 40	10 00		9 61	37 83	762 84
" examining warehouse.	27 50	8,350 82	2,972 79	3,150 43	644 13	15,145 67
" immigration office.	540 47		327 17	32 54	197 65	1,097 83
" inland revenue office.		463 60	285 87	64 33	101 91	915 71
" post office (main).	114 50	11,069 81	992 22	8,220 17	867 24	21,263 94
Branches:—						
sorting room, Windsor Station,						
C.P.R.	996 36					996 36
Northern Receiving H. (333 St. Lawrence).	200 00		27 00	111 06	15 52	353 58
Eastern Receiving (226a Amherst)	225 00		13 50			238 50
" "Station B" (St. Catherine West)	1,457 22	222 01	114 94	125 28	45 62	1,965 07
St. Cunegonde P.O. (Richelieu St.)	1,020 83					1,020 83
St. Louis du Mile End P.O.		371 19	266 99	80 66	32 00	750 84
Westmount, 190 Greene St.	300 00					300 00
Superintendent Public Buildings,						
414 Merchants Bank Building.	50 00					50 00

SESSIONAL PAPER No. 19

PART II.—STATEMENT B.—EXPENDITURE—Continued.

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Quebec—Concluded.</i>						
Quebec citadel buildings.....	17 00	411 00	570 13	131 13		1,129 26
" Clerk of Works office.....	30 92	184 00				214 92
" culler's office.....		407 30	271 22			678 52
" custom house.....		513 70	881 76	395 00	800 00	2,590 46
" Engineer's office.....	422 00	93 00				515 00
" examining warehouse.....		1,204 97	796 59	67 21	450 00	2,518 77
" immigration building.....		25 00	348 36	1,121 50		1,494 86
" observatory.....				71 08	50 00	121 08
" post office.....	27 00	1,361 34	830 24	676 79	750 00	3,645 37
" Queen's wharf building (Marine, Signal Service, culler's, Gas Inspection, Weights and Measures.....		160 00	835 25		750 00	1,745 25
" Trachoma hospital.....	75 00		685 78	166 69		927 47
" St. Roch post office.....			47 80	23 81		71 61
" G. T. Ry. building, 5 Duford st. Peribonka immigrant shed.....	375 00 8 00					375 00 789 21
Richmond post office, &c.....		250 00	324 60	6 61		772 12
Rimouski post office, &c.....		356 87	248 60	141 65	25 00	892 13
Roberval immigration sh-d.....		125 00	204 54	25 09	37 50	452 49
Sherbrooke post office, &c.....		250 00	120 00	82 49		1,369 63
Sorel post office, &c.....		529 67	410 28	392 18	37 50	1,909 16
St. Henri post office, &c.....		477 67	417 47	764 02	250 00	209 70
St. Hyacinthe post office, &c.....			139 74	48 00	21 96	942 70
" inland revenue.....		436 30		356 40	150 00	658 30
" drill hall.....		345 67	163 92	48 71	100 00	565 49
St. Jérôme post office, &c.....		166 13	399 36			755 90
St. John's post office, &c.....		341 10	314 80	100 00		657 08
Terrebonne post office, &c.....		291 60	117 48	188 00	60 00	598 13
Thetford Mines post office, &c.....		286 95	202 32	93 86	15 00	796 60
Three Rivers drill hall.....		144 05	286 98	355 82	9 75	1,417 05
" custom house.....		11 29				1,280 30
" post office.....		462 38	617 97	168 70	168 00	900 86
Valleyfield post office, &c.....		540 02	375 93	303 85	60 50	450 72
Victoriaville post office, &c.....		370 10	410 59	120 17		
		79 05	147 25	186 89	37 53	
Totals for Quebec (carried to Statement A, page 9).....	7,157 95	38,513 06	19,691 64	20,187 28	7,002 89	92,552 82
<i>Ontario.</i>						
Alexandria post office, &c.....		214 61	148 50			363 11
Almonte post office, &c.....		342 70	199 75	45 88	50 00	638 33
Amherstburg post office, &c.....		339 63	194 00	86 75	26 25	646 63
Arnprior post office, &c.....		352 30	285 32	138 29	23 99	799 90
Barrie post office, &c.....		376 73	240 25	226 02	50 00	893 00
Belleville post office, &c.....		621 72	495 92	713 17	83 25	1,914 06
Berlin post office, &c.....		383 90	269 67	240 94	15 77	910 28
Bowmanville post office, &c.....		343 90	141 50	105 74	10 00	601 14
Brampton post office, &c.....		343 10	188 70	191 04	18 00	740 84
Brantford post office, &c.....		524 47	463 47	255 87	38 00	1,281 81
Bridgeburg post office, &c.....		258 43	206 25	32 85	16 00	513 53
Brockville post office, &c.....		411 46	379 00	439 88	85 00	1,315 34
Carleton Place post office, &c.....		252 00	167 25	140 10		559 35
Cayuga post office, &c.....		55 10	122 54	46 65		224 29
Chatham drill hall.....		200 00				200 00
" post office, &c.....		479 81	238 96	201 70	21 25	941 72
Clinton post office, &c.....		117 68	277 72	112 62		508 02
Cobourg post office, &c.....		362 71	219 60	284 46	34 13	900 90
Cornwall post office, &c.....		409 45	290 00	401 95	37 50	1,138 90
Deseronto post office, &c.....		384 80	276 05	274 79	29 25	964 89
Dundas post office.....	250 00	41 60	40 00	39 50		371 10

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT B.—EXPENDITURE—Continued.

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Continued.</i>						
Fort William post office		350 80	443 20	144 39	45 27	983 66
Galt post office		352 58	244 25	36 92	13 25	647 00
Gananoque custom house			148 13	94 00		242 13
" post office		21 00	119 75	143 50	5 29	289 54
Goderich post office, &c.		342 60	244 38	143 69	45 00	775 67
Guelpth post office, &c.		360 19	481 10	597 93	18 72	1,457 94
Hamilton post office, &c.		1,808 46	1,009 76	907 16	823 35	4,548 73
Hawkesbury post office, &c.		292 13	126 35		7 12	425 60
Ingersoll post office, &c.		364 95	251 82	354 76	13 85	985 38
Kenora post office, &c.		356 65	672 40	187 91	52 08	1,269 04
Kingston custom house		173 55	351 55	104 25	6 80	636 15
" drill hall		450 00				450 00
" examining warehouse			39 90		0 55	40 45
" Inland Revenue office				26 85	15 97	42 82
" military college		2,481 00				2,481 00
" post office		492 85	410 00	308 65	12 13	1,223 63
Lindsay post office, &c.		334 90	201 89	48 80	22 50	608 09
London custom house		922 95	1,022 46	457 70	100 65	2,503 76
" drill hall		540 00				540 00
" Engineer's office	291 00					291 00
" post office		1,163 50	638 46	1,811 56	57 50	3,671 02
Napanee post office, &c.		404 20	254 64	114 10	30 19	803 13
Niagara Falls post office, &c.		377 70	236 15	243 75	40 00	897 60
Orangeville post office, &c.		351 20	162 50	1 25	20 00	534 95
Orillia post office, &c.		302 20	217 90	87 47	32 50	640 07
Oshawa post office, &c.		274 48	183 40	88 38	12 91	559 17
Ottawa archives building		700 00	669 50			1,369 50
" astronomical observatory		990 00	552 50	394 94		1,937 44
" bacteriological laboratory			155 63	65 00		220 63
" experimental farm			1,303 23	94 69		1,397 92
" geological survey		700 00	1,029 18	602 60		2,331 78
" Major's Hill park greenhouse		250 00	390 00	15 00		635 00
" national art gallery and fisheries museum		135 00	247 00	28 50		410 50
" post office		1,850 00	1,199 89	692 50		3,742 39
" parliamentary and departmental buildings		31,619 73	20,185 48	14,693 26		66,498 47
" printing bureau		7,330 26	7,970 50	1,605 56		16,906 32
" royal mint			32 50			32 50
" supreme court		1,195 00	643 30	257 00		2,095 30
" workshops (D.P.W.) &c.		1,690 00	955 50	356 00		3,001 50
Ottawa rented buildings:—						
Albert St. (Railway Mail Service offices)	340 00			33 00		373 00
Cliff St. (branch observatory)				12 00		12 00
Metcalfe St. (Labour Dept.)	1,101 25			121 50		1,222 75
" (Militia D.O.C.)	250 00			26 98		276 98
" (Surveyor General)	1,500 00	250 00	359 81	189 00		2,298 81
Queen St. (Dominion Analyst)			120 36	27 00		147 36
" (Exhibition Commissioner)	503 00		104 00	60 00		667 00
" ('Imperial' building)	2,100 00	450 00		214 50		2,764 50
" (Railway Commission, &c.)	6,735 00	950 00	409 50	661 53		8,756 03
Rideau St. ('Corry' building)	5,100 00			360 00		5,460 00
Slater St. ('Canadian' building)	34,162 56	500 00	4,181 10	1,142 40		39,986 06
" (Militia building)	14,671 72	1,000 00	5,793 45	1,792 48		23,257 65
Sparks St. (Ahearn & Soper building—Georgian Bay Survey offices)	360 00					360 00
Sparks St. ('Seybold' building)	1,625 00					1,625 00
" ('Sparks Chambers')	831 00			18 00		849 00
Sussex St. (French translator's offices)	450 00		105 00	128 98		686 98
" (Geological Museum annex—marine stores)	390 00					390 00
Wellington St. (Custom-house)	929 58	750 00	303 36	165 00		2,147 94

SESSIONAL PAPER No. 19

PART II.—STATEMENT B.—EXPENDITURE—Continued.

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Continued</i>						
Ottawa rented buildings— <i>Con.</i>						
Wellington St. (Gas Inspector)			3 04	4 02		7 06
" (Mounted Police stores)	855 00		91 00	63 00		1,009 00
" (Langevin block)	5 00					5 00
" ('Orme' building — Department Interior)	25 00					25 00
" (Workshops of D.P.W. —old)	400 00					400 00
Paris post office, &c.		349 30	129 95	49 88	52 20	581 33
Pembroke post office, &c.		341 37	255 25	99 00	40 00	735 62
Peterboro' custom-house		258 05	235 31	198 35	37 50	729 21
" post office		300 55	255 67	229 39	56 25	841 86
Petrolia post office, &c.		353 83	225 04	199 14	29 82	807 83
Pictou "		344 82	222 75	98 91	13 50	679 98
Port Arthur "		293 04	212 50	65 60	89 25	660 39
" Engineer's office.	87 50		21 50			109 00
Port Colborne Engineer's office.	120 00					120 00
" post office		287 78		62 50	12 50	362 28
Port Hope post office, &c.		359 80	317 25	282 90	20 43	980 44
Prescott custom house.			87 20		45 00	132 20
Prescott post office		348 95	219 50	170 59	45 00	784 04
Sandwich post office			135 98			135 98
Sarnia post office, &c.		427 20	323 02	160 27	44 00	954 49
Sault Ste. Marie post office, &c.		490 60	38 00	198 80	136 75	864 15
Smith's Falls post office, &c.		343 00	170 25	66 24	57 38	636 87
Stratford armoury		208 00				208 00
" post office, &c.		573 59	306 80	229 29	51 00	1,160 68
Strathroy post office, &c.		364 60	199 22	153 81	19 80	737 43
St. Catharines drill hall		507 30				507 30
" post office, &c.	19 70	353 70	399 90	414 38	48 41	1,230 09
St. Thomas post office, &c.		344 55	204 00	167 30	10 80	786 65
Toronto Assistant Receiver General and Inland Revenue offices		825 25	287 02	131 47	26 17	1,269 91
" Civil Service Exam. office	35 00					35 00
" custom-house		1,502 25	964 69	271 47	77 01	2,815 42
" drill shed		1,035 00				1,035 00
" Engineer's office	505 00			30 21		535 21
" examining warehouse		3,673 72	1,326 68	295 13	33 85	5,329 38
" gas inspector's office	360 00					360 00
" post office	1,748 34	7,272 24	1,828 34	3,824 12	358 28	15,031 32
" letter carriers' depot	210 00					210 00
" post office Station A		887 58		942 56		1,830 14
" " " H	1,000 00	2 59	27 45	98 66	2 90	1,131 60
" " " B	1,250 00	9 90		609 57		1,869 47
" " " E		45 00				45 00
" " " C		349 00	234 51	419 27	9 97	1,012 75
" " " F			56 10	13 64		69 74
Toronto Junction post office, &c.		377 30	141 39	225 29	9 00	752 98
Trenton post office		337 55	185 50	156 25	56 25	735 55
Walkerton post office, &c.		336 30	257 23	100 00	15 50	709 03
Windsor drill hall		300 00				300 00
" post office, &c.		729 30	503 40	1,207 20	48 00	2,487 90
Wingham post office, &c.		41 38	118 10	14 32		173 80
Woodstock post office, &c.		411 92	314 26	396 59	35 20	1,157 97
Totals for Ontario (carried to Statement A, page 12)	78,207 65	94,679 85	69,584 53	45,287 76	3,395 74	291,155 53
<i>Manitoba.</i>						
Brandon experimental farm				64 39		64 39
" immigrant building			126 27		5 64	131 91

7-8 EDWARD VII., A. 1908

PART II.—STATEMENT B.—EXPENDITURE—*Continued.*

Name of Building.	Rents.	Salaries of and Supplies for Engineers	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Manitoba—Continued.</i>						
Brandon post office, &c.		535 65	858 30	499 16	875 00	1,968 11
Dauphin immigrant station.			4 75			4 75
Elkhorn immigrant building	90 00					90 00
Minnedosa Dominion Lands office	45 00					45 00
Portage la Prairie post office, &c.		489 10	533 73	216 00	7 55	1,246 38
Virden immigrant building.	42 00					42 00
Winnipeg custom-house.		341 05	166 95	133 23	84 46	725 69
" Dominion Lands office.			100 65	4 80	22 38	127 83
" clerk of works office.		62 00		7 85		69 85
" Engineer's office.	310 00			11 16		321 16
" examining warehouse.		2 00	80 63	53 90	5 29	141 82
" immigration buildings.	153 30	55 00	2,616 98	1,412 24	273 82	4,511 34
" new military store.		105 00				105 00
" post office.	25 00	4,418 57	2,763 33	3,665 99	306 63	11,179 52
" " sorting room at C.						
" P.R. station.	843 75					843 75
" weights and measures.	350 00					350 00
Totals for Manitoba (carried to Statement A, page 12).	1,859 05	6,008 37	7,251 59	6,068 72	780 77	21,968 50
<i>Northwest Provinces.</i>						
Alameda Dominion lands office.	135 00		53 98			188 98
Battleford " "	255 00		115 50			372 50
" immigration building.	120 00		275 25			395 25
Banff topographical survey office	66 00					66 00
Carnduff court house.		166 64		2 65		169 29
Calgary court house &c.	90 00	205 47	232 26	248 09		775 82
" custom house.	740 00			80 64		820 64
" Engineer's office.	114 00			10 56		124 56
" Dominion lands office.	37 00					37 00
" homestead inspectors.	75 00			12 12		87 12
" immigration building.			61 21	33 80	30 00	125 01
" topographical survey office.	237 50					237 50
" post office, &c.		697 43	797 28	1,339 02	382 50	3,216 23
" " inspector's office.	210 00	75 75		47 52	3 75	337 02
Davidson immigrant building.			8 10			8 10
Edmonton court house.	420 00	330 00	70 00	62 10		882 10
" Dominion lands and registry office.	22 50	417 05	4 00	102 95		546 50
" post office.	1,000 00	419 55	163 30	302 00		1,884 85
" immigrant shed.	604 87		344 44	8 55		957 86
Indian Head experimental farm.			708 75	84 12		792 87
" forestry station.			323 75			323 75
Lethbridge court house and custom house, &c.	17 50		129 25	71 85	43 70	262 30
" immigration building.			284 87	84 03	20 00	388 90
" post office.		477 80	36 38	2 00	19 00	535 18
Medicine Hat court house.		270 00		53 76	7 50	331 26
Lloydminster immigration building.			246 00			246 00
Macleod custom house.			137 80	65 10		202 90
" court house.		331 90	162 75	177 50	1 75	673 90
Prince Albert Dominion lands and reg- istry office.		333 30	337 50			670 80
" immigrant shed.			42 20			42 20
" post office, &c.		483 15	546 02	57 37	30 60	1,117 14
Red Deer Dominion lands office and court house.		278 70	125 00	37 55		441 25
Regina clerk of works office.	175 60	5 55				180 55
" court house.		400 50		93 53		494 03

SESSIONAL PAPER No. 19

PART II.—STATEMENT B.—EXPENDITURE—Continued.

Name of Building,	Rents.	Salaries of and Supplies for Engineers.	Heating.	Lighting.	Water.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>North west Provinces—Concluded.</i>						
Regina Dominion lands and registry office		845 41	440 00	168 60	30 00	1,484 01
" immigrant building.	1 00		230 23	12 35	23 25	266 83
" post office &c.		404 84	320 46	134 80	26 25	886 35
Rosthern Dominion lands office.	120 00					120 00
" immigrant building.			8 00			8 00
Strathcona immigrant building.	36 00		163 13			199 13
Saskatoon " "			150 00			150 00
Stettler immigrant building.	180 00		7 15			187 15
Moosejaw post office.		339 66	853 20	198 10	25 95	1,416 91
" court house.		135 07	180 00	9 15	1 55	325 77
" immigrant building.			11 25			11 25
Moosomin court house.		256 40	7 50			263 90
Wolseley "		196 15		27 50		223 65
Yorkton Dominion lands office.	540 00			12 30		552 30
" court house.		166 64				166 64
Totals for N.W.T. (carried to Statement A, page 13).....	5,196 37	7,236 96	7,578 51	3,539 61	645 80	24,197 25
<i>British Columbia.</i>						
Agassiz experimental farm.			68 20			68 20
Atlin post office.		126 80	80 00	40 50		247 30
Esquimalt custom house.			14 00			14 00
Colwood telegraph repairers office.	60 00					60 00
Kamloops post office, &c.		556 99	300 46	345 80		1,203 25
Nanaimo post office, &c.		524 20	176 50	154 75	9 00	864 45
Nelson post office, &c.		524 39	357 90	485 50	72 00	1,439 79
New Westminster post office.		598 10	452 03	427 92	39 66	1,517 71
" fisheries, Indian bldg.			10 75	17 04		27 79
Roseland post office, &c.		527 49	434 50	370 80	173 00	1,505 79
Vancouver examining warehouse	1,872 00		33 59	269 37		2,114 96
" post office.	396 00	1,804 40	93 90	1,520 57	47 03	3,861 90
" dead letter office.	184 00					184 00
" steamboat inspector's office.	67 50					67 50
" custom. house.		2 00	113 10	286 60		401 70
" immigrant detention hospital			11 88			11 88
Victoria clerk of works office.	84 00	10 00				94 00
" marine and Indian office (old custom-house)		565 55	128 80	55 21	12 00	761 56
" post office.		2,699 60	668 50	1,254 18	36 45	4,658 73
" old post office.			55 55	9 80	64 35	129 70
" immigrant building.			14 00			14 00
William's Head quarantine station			2,948 21			2,948 21
Totals for B.C. (carried to Statement A, page 13).....	2,663 50	7,939 52	5,961 90	5,178 04	453 49	22,196 45
<i>Yukon Territory.</i>						
Dawson, sundry buildings (not apportioned).						62,409 06
Whitehorse post office, &c.		1,250 00				1,250 00
Totals for Yukon (carried to Statement A, page 14).....		1,250 00				63,659 06

7-8 EDWARD VII., A. 1908

PART II, STATEMENT C.—Showing the amounts loaned by Government under the authority of special Acts of Parliament and upon the security of debentures of the borrowing corporation. The works upon which these funds are expended are of a quasi-public nature, and the several advances have been made upon the recommendation of the Honourable the Minister of Public Works, and after inspection by the Chief Engineer.

To whom Loaned.	Parliamentary Authority.	Purpose.	Amount.
<i>Loaned during 1905-6.</i>			8 cts.
*Harbour Commissioner's of Quebec.	62-63 Vic., ch. 34, sec. 34.	Improvements to Princess Louise dock.	110,878 67
<i>Loaned during 1906-7.</i>			
Harbour Commissioner's of Quebec.	62-63 Vic., ch. 34, sec. 34.	Improvements to Princess Louise dock.	120,246 72
			231,125 39

*This information was inadvertently omitted from the report for 1905-6.

PART III

REPORT

ON

PUBLIC BUILDINGS THROUGHOUT THE DOMINION

FOR THE FISCAL PERIOD ENDED MARCH 31, 1907

BY THE

CHIEF ARCHITECT

PUBLIC WORKS, CANADA,

CHIEF ARCHITECT'S OFFICE,

OTTAWA, September 20, 1907.

F. GÉLINAS, Esq.,

Department of Public Works,

SIR,—I am sending you herewith, annual report of works executed under this branch during the fiscal period ended March 31, 1907.

D. EWART,

Chief Architect.

PROVINCE OF NOVA SCOTIA.

ANTIGONISH.

PUBLIC BUILDING.

This building, which was described in my report of last year, is nearly completed. A hot water heating plant, electric wiring and post office fittings are being installed.

Plans, &c., prepared by this department.

Clerk of works, Alexander McGillivray.

Contractors, the Rhodes, Curry Company.

CANSO.

PUBLIC BUILDING.

This building, which was described in my report for 1906, is now nearing completion.

Plans for a hot water heating apparatus, post office fitting, &c., are prepared.

HALIFAX.

CATTLE QUARANTINE.

Roads were made and wire fencing done under the supervision of C. E. W. Dodwell, resident engineer and superintendent of public buildings, Nova Scotia, Halifax, N.S.

Contractor for fencing, Isaac Hutchings.

Road making by day labour.

CUSTOM-HOUSE.

This building, which was described in a previous report, has been carried on continuously during the fiscal year, and is now practically completed.

7-8 EDWARD VII., A. 1908

Drawings and specifications prepared by this department and work supervised by C. E. W. Dodwell, resident engineer and superintendent of public buildings, Nova Scotia, Halifax, N.S.

W. J. Basche, Resident Architect.

Contractor for building, M. E. Keefe.

Contractor for heating apparatus, Longard Bros.

Contractor for tower clock, Schultz Bros.

DETENTION HOSPITAL.

Trachoma Hospital.

The construction of this building, which was described in my report of last year, has been carried on continuously since and is now nearly completed. Plans, &c., for heating, lighting, fittings and furniture are prepared.

Plans, &c., prepared by this department.

Resident Architect, A. G. Gates.

Contractor for construction of building, lighting, &c., S. A. Marshall & Son.

Contractors for heating apparatus, Martel and Langelier.

DETENTION HOSPITAL (OLD BUILDING).

Repairs were made to carpentry and a cooking range, stove and pipes furnished under the supervision of C. E. W. Dodwell, resident engineer and superintendent of public buildings, Nova Scotia, Halifax, N.S.

DOMINION BUILDING.

A quantity of new furniture, some mail trucks and an electric stove were supplied; the street letter and newspaper boxes were painted, and repairs were effected to lighting, plumbing, carpentry, locks, lock boxes, furniture, glazing and clock.

Work supervised by C. E. W. Dodwell, resident engineer and inspector of public buildings, Halifax, N.S.

CUSTOM APPRAISER'S OFFICE.

This is a rented building. Minor repairs were effected to plumbing, goods hoist, glazing, furniture, &c., under the supervision of C. E. W. Dodwell, resident engineer and superintendent of public buildings, Nova Scotia, Halifax, N.S.

IMMIGRATION BUILDING.

Two new hot water heating furnaces were installed and it is further intended to replace the original two furnaces by two similar to the new furnaces, the four new furnaces to be connected into one battery; extensive repairs were made to the older portion, principally to plastering, plumbing, lamps, &c.

Plans prepared by this department and work carried out under the supervision of C. E. W. Dodwell, resident engineer and inspector of public buildings, Halifax, N.S.

LAWLOR'S ISLAND QUARANTINE STATION.

WINTER HOSPITAL.

This building, which was described in my report for 1906, is nearing completion and is being fitted up with a hot water heating apparatus. The grounds about the building were graded by day labour and some repairs were made to the wharf.

SESSIONAL PAPER No. 19

Plans and specification prepared by this department and work supervised by C. E. W. Dodwell, resident engineer and superintendent of public buildings, Nova Scotia, Halifax, N.S.

Clerk of works, Thomas Osborne.

Contractors, Rhodes, Curry & Co.

INVERNESS.

PUBLIC BUILDING.

A site measuring 100 feet by 100 feet situated on the corner of Railway and Second streets was acquired, and on July 28, 1906, a contract was entered into for the construction of the building. The building consists of a main portion having two brick stories resting on a stone basement and crowned by a wooden mansard attic with a frontage of 33 feet on Railway street by a depth of 44 feet, and in the rear a one-story brick adjunct on a stone basement 31 feet in depth by 22 feet in breadth. The main portion is designed to accommodate the heating, fuel and stores in basement, the post office on ground floor, the Customs and Inland Revenue on first floor, and the caretaker on the attic floor. The adjunct is for the examining warehouse and the weights and measures office.

The floors, roofs, partitions and stairways are of wood, excepting the basement floor which is concrete and the partitions of stairway hall which are brick. There are brick vaults one each for ground and first floor.

Plans, &c., prepared by this department.

Clerk of works, Duncan A. McIsaac.

Contractor, Edward F. Munro.

LUNENBURG.

PUBLIC BUILDING.

The foundation walls were cemented; the brickwork of the external walls was repaired and painted; galvanizd iron drips were built in joints under string course; new concrete front entrance steps were put in; a number of window frames were renewed; the inside and outside woodwork was painted, the floors shellacked, the plastering kalsomined and the glazing put in repair. A new W.C. was fitted up for the post office and another for the customs, a bath tub and a range boiler were fitted up in the caretaker's apartments and some additional electric lights were supplied.

Work done under the supervision of the department.

Contractors, Frank Powers, W. Romkey.

NEW GLASGOW.

PUBLIC BUILDING.

A new hardwood post office lobby screen with post office fittings and furniture were provided; a partition was built inclosing the upper part of the stairway at caretaker's apartments; a new hardwood floor was laid in general delivery and offices, ground floor; a new smoke pipe was provided for heating furnace; the ceilings and walls were kalsomined; additional electric wiring, fixtures and lamps were provided; a new lavatory basin was fitted up and the plumbing generally improved and repairs effected to glazing, woodwork and plastering.

Work done under the supervision of D. H. Waterbury of this department, St. John, N.B.

7-8 EDWARD VII., A. 1908

PICTOU.

CUSTOM-HOUSE.

New hardwood floors were laid in halls and offices of inland revenue suite; the grounds about the building were improved and had cinder footpaths laid through them.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

POST OFFICE.

A concrete footpath was laid along the street frontages; a portion of the rear of lot was shored up and the fence improved; new handrails were supplied to entrance stairs and repairs were made to woodwork of doors, vestibule and floor.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

SYDNEY.

QUARANTINE STATION, POINT EDWARD.

An artesian well was sunk and a well house built over it.

TRURO.

PUBLIC BUILDING.

The post office arrangement was altered and improved; a new lobby screen was erected; a new hardwood floor was laid in post office lobby, general delivery and postal offices; a glass partition with swinging doors was erected in customs hall, first floor; an additional door to close off end of lower hall was put in; some painting and varnishing was done; new entrance stone steps were set and repairs were made to masonry, &c.

Work done under the supervision of D. H. Waterbury, of this department, St. John, N.B.

PROVINCE OF NEW BRUNSWICK.

DALHOUSIE.

PUBLIC BUILDING.

All broken plaster was made good; the walls and ceilings were kalsomined; the wainscot, window frames, sashes, radiators and woodwork painted, lobby screen and hardwood varnished; the sewer was extended; three new water closets were installed; new copper conductors were furnished to eaves and the down pipes repaired; a new cistern was provided in attic; a new stone step was laid at entrance; a broken window sill was replaced; a granolithic footpath was laid and repairs were effected to cement floor of basement, pointing of masonry, and eaves cornice, and some new treads put in main stairway.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

FREDERICTON.

DRILL HALL.

This building, which was described in my report of last year, has been completed, fitted up with hot water heating, electric lighting and furniture. The upper part of the

SESSIONAL PAPER No. 19

recreation room which was designed to extend through two floors, has been converted into an additional story, and some minor changes made in partitions incidental thereto.

Plans and specifications prepared by this department.

Clerk of works, H. M. Clarke.

Contractor, C. J. B. Simmons.

PUBLIC BUILDING.

A new lobby screen and fittings, together with some furniture supplied and erected in post office; glass panels were put in entrance doors; an entrance porch was constructed; the general delivery and offices were painted and varnished, and some repairs were made to woodwork.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

KENTVILLE.

PUBLIC BUILDING.

The drains were connected with the town's new sewerage system, the plumbing was improved and some minor general repairs effected.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

MARYSVILLE.

PUBLIC BUILDING.

Partitions were erected to increase the number of rooms on first floor; a pantry was built; the upper story and a part of ground floor were painted and kalsomined; the heating coils were in part rearranged, and repairs were made to woodwork.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

MONCTON.

PUBLIC BUILDING.

A new post office lobby screen was put in; a new hardwood floor was laid in lobby; a new porch was erected at rear entrance; fly doors were provided and some painting and varnishing done.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

ST. JOHN.

CATTLE QUARANTINE.

A sewer pipe was laid from each building to a main, running into Marsh creek, with branches for surface drainage having traps and gratings. Water supply was laid from the city mains with necessary sinks, &c. The grounds were inclosed by wire fencing.

Work done under the supervision of D. H. Waterbury, of this department, St. John, N.B.

CUSTOM-HOUSE.

The long room had an oak glazed and panelled counter screen with doors, wickets, cashier's cage, &c., erected; gas pipes were extended and new lights supplied; new desks

7-8 EDWARD VII., A. 1908

were provided and the electric wiring extended; the tiling of the main hall floor was in part renewed; the drain was overhauled and put in order; the signal officer's apartments were improved; a new doorway made; furniture and hot water boiler supplied therefor; the floors oiled, the rooms painted and kalsomined and the bath room improved; the marine flag mast was repaired, painted and provided with guys and halyards, the walls of a number of offices were repainted. Repairs were made to steam boilers, electric bells, wires, batteries, clocks, plumbing, closets, cisterns, door springs, cement bases, doors, window sashes and cords, glazing, woodwork, plastering, hydraulic hoist, main external cornice and office furniture.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

ST. JOHN.

POST OFFICE.

New linen blinds were supplied for a number of windows; the post office inspector's rooms had new linoleum floor covering; the basement was painted and whitened; the elevator was overhauled and put in good running order; repairs and improvements were effected to the woodwork generally; some new sections were put in the copper conductor pipes and the remainder as well as the cast iron receivers repaired; some new articles of furniture were supplied and some repaired; a portion of the heating system was removed and replaced by new; galvanized iron ash barrels and disinfectants were supplied; the street letter boxes and parcel receivers were painted, and repairs were effected to plumbing, bells, wires, batteries, speaking tubes, door springs, glazing, masonry, plastering, &c., &c.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

PARTRIDGE ISLAND QUARANTINE STATION.

The buildings hereat comprise a disinfection house, four detention buildings, two hospitals, a gas-house and plant, a quarantine steward's house and a medical superintendent's residence.

The beds in the detention buildings were rearranged and the partitions rearranged enlarging the rooms; the shore landing wharf was repaired; telephone connection with new building was made; the disinfection house and the medical superintendent's were painted and in part papered, varnished, &c., grading about the doctor's house and about the new hospital and to the new roadway was done; an oak medical ease which occupies an end of one of the rooms was constructed in the new hospital, and some stove boards, acetylene street lamps, &c., were supplied.

Work supervised by D. H. Waterbury, of this department, St. John, N.B.

ST. STEPHENS.

PUBLIC BUILDING.

A new post office lobby screen and fittings were supplied under the supervision of D. H. Waterbury, of this department, St. John, N.B.

TRACADIE.

LAZARETTO—LAUNDRY AND SEPTIC TANK.

The laundry is to be an adjunct to the basement and be situated in the rear of the fuel room and measures 52 feet by 29 feet. The floor is to be level with that of the basement of the building and the space is to be divided into a laundry for the

SESSIONAL PAPER No. 19

lepers and one for the Sisters of the Congregation, but having no means of communication with one another. The walls are of stone, the partitions brick and the floor concrete. A chimney for the steam boiler is to be built in the rear wall of the main building and have the shaft carried well above the roof. The building will be fitted up with sterilizing and washing apparatus, steam boilers and machinery.

Plans, &c., prepared by this department.

PROVINCE OF PRINCE EDWARD ISLAND.

SOURIS.

PUBLIC BUILDING.

This building which was described in my report of last year is completed.

Plans, &c., prepared by this department.

Clerk of works, Bernard Creamer.

Contractor for construction, Edward H. Mitchell.

Contractor for heating apparatus, Bruce Stewart.

Contractor for sidewalks, F. S. Macdonald.

PROVINCE OF QUEBEC.

BERTHIERVILLE.

PUBLIC BUILDING.

Electric lighting was installed; the brick wall between the post office and the annex was removed, and the walls and woodwork of the office and lobby were painted. The gallery in front was refloored.

Work supervised by G. S. Gingras, of this department, Montreal, P.Q.

CHICOUTIMI.

PUBLIC BUILDING.

This building which was described in my report of last year is still in progress of construction. Contracts for hot water heating and wiring are entered into.

Plans and specification prepared by this department.

Clerk of Works, Wm. Warren.

Contractor, Adolphe Beaulieu.

Contractor for hot water heating, Ovide Guay.

COATICOOK.

PUBLIC BUILDING.

The lead piping of the plumbing was removed and replaced by galvanized iron piping; a water closet, a bath and a lavatory basin were fitted up for the caretaker, and the first floor rooms and corridors were ceiled in pine, oil stained and varnished, and had the walls and woodwork painted and the floors cleaned and varnished.

All supervised by G. S. Gingras, of this department, Montreal, P.Q.

7-8 EDWARD VII., A. 1908

DRUMMONDVILLE.

PUBLIC BUILDING.

Some minor repairs were made to plumbing; the interior plastering and wood-work were cleaned and painted, under supervision of G. S. Gingras, of this department, Montreal, P.Q.

DUNDEE.

CUSTOM-HOUSE.

The office of the surveyor was supplied with furniture and with a burglar and fireproof safe, under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

FRASERVILLE.

PUBLIC BUILDING.

A new drain was put in; the stonework was pointed; a new wrought iron boundary fence was put up; a board walk was laid along the footpath; some sodding and tree planting was done; the front entrance platform was renewed; ventilating panes were put in the storm windows of ground floor; new plumbing was fitted up in attic and the plumbing throughout the building renovated; the woodwork throughout was repaired, and general repairs made to the various parts of the building.

Work done under the supervision of this department.

GROSSE ILE.

QUARANTINE STATION.

Sick Division.

Disinfection building.—On November 20, 1906, a contract for the construction of this building was entered into with Achille Dugal. It is to be a one-story building with brick walls, concrete floor and wooden roof, measuring on plan 26 feet by 19 feet. It is to contain a room for infected clothing, steam boiler and sterilizing apparatus, a room for sterilized clothing, a nurses' disrobing room, a needle bath and a nurses' dressing room.

Hospital.—Handrail and railing renewed and painted; wire ceilings put in; a number of water closets fitted up, and a tank of 850 gallons capacity put in.

Hospital employees' building.—Drainage for six W.C.'s was laid, one water closet was fitted up; a stairway was put in and the barn in most part renewed.

Small-pox shed.—The W.C.'s were ceiled with wire mesh; 2 ventilators were put in.

Laundry.—One ventilator was put in.

Friends of the sick division.—The large chimney was demolished; the floor and roof were repaired; a partition was erected, and the cornice was repaired.

Middle Division.

Baker's dwelling.—A cellar was excavated and paved.

Boatmen's original quarters.—These lodgings, six in number, were fitted up with separate sets each of bath, water closets, lavatory basin, hot and cold water service drainage, &c.

SESSIONAL PAPER No. 19

Presbytery.—Part of the floor was renewed; two windows were added, and repairs were made to the stable.

Medical superintendent's residence.—The floor of the verandah was in part renovated and painted. The gardener's lodge was raised, furnished with new sills and in part new floor; the wood shed, barn and stable were raised and levelled, and the stairway leading from grounds to river was renewed.

Generally.—Two new wells were sunk and four others were enlarged, cleaned and renovated.

Boatmen's new quarters.—This building, containing eight dwellings, is completed and fitted up with plumbing, hot and cold water services, hydrants, drainage, &c.

Western or Health Division.

New building for inspection of quarantine immigrants.—This building is completed.

First class building.—A steam heating apparatus was put in from plans of Chas. Vezina.

Constables' quarters.—These were repaired, repapered and repainted.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

IBERVILLE.

POST OFFICE.

A site, cadastral No. 203, at the corner of Market and Morley streets, was obtained and on July 26, 1906, a contract was entered into for the construction of the building which has a frontage of 50 feet by a depth of 33 feet. It is a one-story brick building on a stone basement and having a wooden unlighted cock loft roof covered with metal; the floor of the ground floor, the roof and the stairway are wood, and the floor of the basement concrete. There is a brick vault in ground floor. The building is to be heated by hot water.

Plans, &c., prepared by this department.

Clerk of works, J. E. A. Benoit, architect.

Contractor, A. G. Marshall.

JOLIETTE.

PUBLIC BUILDING.

The main entrance to the building was fitted with a permanent porch. Interior window shades were supplied. Minor repairs done to plumbing and a water filter installed in the water main.

All done under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

LEVIS.

PUBLIC BUILDING.

This building which was described in my report of last year has been continuously in progress, but is not yet completed.

A hot water heating system, a tower clock, electric lighting and the fittings for the various departments, have been contracted for and the completion of the building during the incoming summer is expected.

Clerk of works, L. Auger.

Contractor, Joseph Couture.

7-8 EDWARD VII., A. 1908

LONGUEUIL.

POST OFFICE.

This building which was described in a previous report is completed ready for occupation.

Plans, &c., prepared by this department.

Clerk of works, Alfred Prefontaine, architect.

Contractor, Joseph Bourque.

Contractor for clock, T. A. Grothe.

Sodding, W. Baker.

MONTMAGNY.

PUBLIC BUILDING.

This building which was described in a previous report is still in progress. A hot water heating apparatus and electric lighting are being installed.

Plans and specification prepared by this department.

Clerk of works, Theodore T. Beaumont.

Contractor, Napoleon Dumont.

Contractors for heating apparatus, Proulx and Mathurin.

Contractor for electric lighting, Charles Vezina.

MONTREAL.

CUSTOM-HOUSE.

The electric light was installed in the remaining portion of building. Roof and eaves troughs were repaired and several repairs to plumbing, such as two new lavatories, new water pipe, new waste pipe, &c.

The heating apparatus was also repaired; two coils altered, two others put in private detectives rooms and the ceilings of these two rooms repaired and tinted. Hardwood work was repaired and varnished, a number of articles of furniture supplied, also carpets and linoleum and 200 feet of fire hose.

Work supervised by C. Desjardins, clerk of works, Montreal, P.Q.

EXAMINING WAREHOUSE.

Walls were pointed; brick pillars in all corridors on every floor were repaired and covered 4 feet high with steel plates for protection from trucks loaded with goods.

A mechanical stoker was put in for boilers, a room was fitted up for firemen. From time to time, repairs were done to the large down pipe from roof and also to plumbing. Several repairs to heating apparatus and the pipes in basement were covered over with asbestos and two coils renewed.

Work supervised by C. Desjardins, clerk of works, Montreal, P.Q.

INLAND REVENUE BUILDING.

The original heating furnaces were taken out and two new ones installed, this necessitated excavating in order to lower floor and give required space for pipe connection to chimney and other connections, the floor was cemented, water pipe and connections to coils were added, also several valves.

Repairs were effected to plumbing, roof and eave troughs and also to gas pipe and a few Auer lights added.

Work supervised by C. Desjardins, clerk of works, Montreal, P.Q.

SESSIONAL PAPER No. 19

MONTREAL.

POST OFFICE.

The following alterations of and additions to money order and Accountant's offices were effected; a wall was demolished, a new glazed partition put in doors and wickets erected; a hardwood counter was placed all along new division with drawers, doors, shelves, necessary locks, &c.; plastered division was made and an opening through another wall for a door to the new room; plumbing in these new offices was altered, 2 new basins and taps, water pipe and sinks were put in and various repairs were made to the whole of the plumbing.

The 3 doors to main entrances with the old porches were taken down and 3 new revolving doors were put in.

A new hot water system consisting of a furnace in basement and a galvanized iron boiler in attic was installed, to supply hot water for the purpose of cleaning building, together with galvanized iron pipes and all necessary connections to serve hot water to each floor.

Various alterations were effected to electric lights, new lights added in new offices of money order and Accountant; also 3 large electric lamps installed outside of three main entrances.

A telephone system was installed from Assistant Postmaster's office, to all branches of the department.

The heating system also has undergone certain repairs; a number of coils were altered and a new one added in Superintendent Ross' room. The mail wagons were repaired and new rubber tires put on.

New hardwood floors were laid in basement, letter carriers' large room, post office Inspector's rooms and the 4 corridors on same floor.

Several tables and pigeon-holes for the distribution of mails were supplied. The roof has also undergone repairs.

POSTAL STATION 'B.'

Repairs were effected to glazed partitions and letter boxes; a new division partition was put up to enlarge letter carrier's room; doors and windows were repaired; new locks put in; walls repaired and whitewashed; all woodwork, inside and out was painted and the hardwood partitions were varnished. Iron grilles were put in all openings in basement, also to windows and doors in rear of letter carrier's office.

W.C.'s were repaired, a complete system of urinals, &c., was installed.

The gas light system was also repaired, gas pipes and several lights added.

Work done under the supervision of C. Desjardins, clerk of works, Montreal, P.Q.

POST OFFICE, ST. LAWRENCE STREET.

Minor repairs to plumbing, to W.C.'s and urinals, also to gas light and a few Auer lights added.

Work done under the supervision of C. Desjardins, clerk of works, Montreal, P.Q.

POST OFFICE, ST. LOUIS DU MILE END.

Minor repairs were done to this building, the framework around tower clock repaired and varnished, also new panes of glass put in. Electric light repaired and a few lights added. A system of gas light installed for the P.O. A few urgent repairs to plumbing, W.C.'s, urinals, &c.

Work done under the supervision of C. Desjardins, clerk of works, Montreal, P.Q.

HOCHELAGA POST OFFICE.

The exterior of all openings, roof, balustrades, iron cornices, &c., were painted, under the supervision of C. Desjardins, clerk of works, Montreal, P.Q.

7-8 EDWARD VII., A. 1908

NICOLET.

PUBLIC BUILDING.

This building, which was described in a previous report, is still in progress.

Plans, specifications, &c., prepared by this department.

Clerk of works, Philemon Rivard.

Contractor, Joseph Bourque.

Contractor for heating apparatus, Jos. Morissette.

NOMININGUE.

IMMIGRATION BUILDING.

A contract for the construction of this building was entered into October 19, 1906, and the building is completed.

It is a 2½-story wooden building on stone foundation walls, and consists of a main portion 46 feet by 28 feet, having on the ground floor separate dining rooms for men and women and on the first floor separate dormitories for men and women, the attic being for storage and there being no basement; also a rear wing 26 feet by 18 feet containing a basement for vegetable storage, a ground floor for caretaker's dining room and a first floor for (2) bedrooms. In a re-entrant angle between the main building and the wing is a one-story open leanto shed 13 feet by 17 feet.

Plans, &c., prepared and work supervised by the department.

Work supervised by G. S. Gingras, of this department, Montreal, P.Q.

Contractor, L. Gauthier, Quebec.

QUEBEC.

CITADEL.

During 1906-7, a wooden one-story shed, the walls and roof covered with metal, measuring on plan 100 feet by 20 feet was constructed in the shot yard under the supervision of Ph. Beland, clerk of works, Quebec, by Decary and Noel, contractors.

Plans and specification prepared by this department.

HIS EXCELLENCY'S RESIDENCE, CITADEL.

Repairs to heating furnace, water service, ventilation and bells were effected; some of the furniture was repaired and revarnished, and the interior of the building cleaned and put in order for the annual visit of Their Excellencies.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

IMMIGRATION BUILDING, LOUISE EMBANKMENT.

Inclosure fences were erected between the buildings and the tracks and between the buildings and the wharf; a number of lavatory basins were placed in the offices and repairs were effected to the roofs and stoves.

A number of signs were painted and some awnings provided.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

POST OFFICE.

An additional observation gallery was erected; a portion of the roof was recovered with metal; a number of offices were repapered and repainted; repairs were made to plumbing and some articles of furniture and some carpet, linoleum, curtains, &c., were supplied.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

SESSIONAL PAPER No. 19

QUEBEC.

WEIGHTS AND MEASURES OFFICES.

General repairs to carpentry were effected under the supervision of Ph. Beland, of this department, Quebec, P.Q.

CUSTOM-HOUSE.

Iron ladders were fixed on roof; a number of the offices were papered and painted and the iron railing on wharf was painted; a carpet and a number of articles of furniture were supplied and repairs were made to wharf, heating apparatus and plumbing.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

EXAMINING WAREHOUSE.

Iron ladders were placed on roof; the heating mains of the front portion were renewed and some of the branches altered; the boiler room, ceiling and the covering of the steam boilers were sheeted with steel; the flooring in second floor was renewed in birch; a large counter and wood partition glazed above and panelled below were put in; one room was painted and the plastering was repaired.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

STORE BUILDING, DOMINION ARSENAL.

On May 7, 1907, a contract for the construction of this building was entered into. It is a three-story stone building on stone and cement foundations having frontages of 91 feet and 53 feet on Carleton and Arsenal streets respectively. All the ground floor excepting what is occupied by weigh scales, elevator, brick safe, stairways and storekeepers office is for storage; the first floor has a strip 20 feet in width, and the second floor a strip 15 feet in width, by the length of the building, devoted to offices, and the remainder is for storage. There is a brick safe room on each floor and a lavatory on both first and second floors. The external walls are lined with brick.

The staircases, posts, beams and the floor and ceiling joints are of iron, but the partitions and roof are of wood the partitions being mainly glazed partitions. The elevator travels from top to bottom. The floors and second floor ceiling are concrete, the ground floor covered with block pavement and the office portions of the succeeding floors with hardwood flooring. The roof is covered with tar and gravel composition.

Plans, &c., prepared by this department.

Contractors, Jinchereau and Lamonde.

TRACHOMA HOSPITAL, SAVARD PARK.

A brick building for disinfection was erected, the cesspool was lined with brick; the verandahs of the temporary hospital were covered with iron; the temporary hospital windows were furnished with iron grilles; two ranges were furnished and heating apparatus, baths, electric lights, &c., were put in the temporary building, and also temporary latrines erected outside.

Wooden benches and table were supplied and the roof of the temporary hospital was painted. Some minor works of plumbing and drainage were done, and a water service pipe from the aqueduct was laid to the buildings.

Work supervised by Ph. Beland, clerk of works, Quebec, P.Q.

DETENTION HOSPITAL (TRACHOMA HOSPITAL), SAVARD PARK.

This building, which was described in a previous report, is nearing completion.

Plans, &c., prepared by this department.

Work done under the supervision of E. M. Talbot, architect.

Contractors, Jinchereau and Lamonde.

Contractors for hot water heating apparatus, Martel & Langelier.

7-8 EDWARD VII., A. 1908

RICHMOND.

PUBLIC BUILDING.

The interior was cleaned and painted throughout; hardwood floors were laid in first floor hallway and in caretaker's kitchen and a water filter was fitted to the main feed pipe.

Work done under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

ST. HYACINTHE.

DRILL HALL.

This building, which was described in a previous report, is completed; furnished with hot water heating and electric lighting.

Plans, &c., prepared by this department.

Clerk of works, Francis Renaud.

Contractors, Paquet & Godbout.

Contractor for hot water heating apparatus, Joseph Huette.

Contractor for electric lighting, St. Hyacinthe Gas and Electric Power Company.

Contractors for fittings, Morin & Fils.

ST. JOHNS.

POST OFFICE BUILDING.

This building, which was described in my report of last year, is still in progress.

Plans and specification prepared and work to be supervised by J. E. A. Benoit, architect, St. Johns, P.Q.

Contractor, J. J. Collins.

ST. JEROME.

PUBLIC BUILDING.

The roof of the main building was covered with galvanized iron and a water filter was installed under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

SOREL.

PUBLIC BUILDING.

A new flag pole was erected on tower; the main entrance steps were repaired and covered with special cast iron plates; additions were made to the heating apparatus on ground and attic floors; the lead piping of plumbing on first floor was removed and replaced by galvanized iron piping, and furniture and carpets were supplied to the customs, inland revenue and marine offices.

Work supervised by G. S. Gingras, of this department, Montreal, P.Q.

ST. HYACINTHE.

PUBLIC BUILDING.

The plumbing at the post office, &c., building and that at the inland revenue building underwent repair under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

SESSIONAL PAPER No. 19

THETFORD MINES.

PUBLIC BUILDING.

The main roof was recovered with galvanized iron, and repairs were made to a number of the windows and to cornice, all under the supervision of G. S. Gingras, of this department, Montreal, P.Q.

THREE RIVERS.

DRILL SHED.

This building, which was described in my report of last year, is still in course of construction. A hot water heating apparatus and an electric lighting service were put in.

Clerk of works, Emile Tanguay, architect.

Contractors for the erection of the building, Jos. Bourque & Co.

Contractors for heating apparatus, Martel & Langelier.

Contractors for electric lighting service, The Slade Electric Company.

VICTORIAVILLE.

PUBLIC BUILDING.

Snow and ice steel guards were supplied and fitted to eaves of roof on front and south faces of building; a covering was erected over the customs entrance, and hardwood floors were laid in kitchen and in bath room.

Work supervised by G. S. Gingras, of this department, Montreal, P.Q.

PROVINCE OF ONTARIO.

ALEXANDRIA.

PUBLIC BUILDING.

A contract for the reconstruction of this building in accordance with the original plans was entered into May 28, 1906, and the building is now completed.

Plans, &c., prepared by this department.

Clerk of works, J. R. Chisholm.

Contractor for construction of building, W. J. Rowe.

AMHERSTBURG.

PUBLIC BUILDING.

The building was renovated, cleaned, painted, kalsomined and papered, the outside painting including brickwork, eaves troughs and ironwork. All the carpentry and ironwork including the eaves troughs and down pipes were made good. The building is now in good condition.

Work done under the supervision of Thos. H. Hastings of this department, Toronto, Ont.

7-8 EDWARD VII., A. 1908

BARRIE.

PUBLIC BUILDING.

Alterations and rearrangement of the post office fittings were made, a new post office screen with new brass boxes and drawers also a new floor were put in the post office. A bath was fitted up in caretaker's quarters and the plumbing was overhauled and in part renewed. A new partition was erected and the interior painted and kalsomined.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

BERLIN.

PUBLIC BUILDING.

The top of the main chimney was rebuilt under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

BELLEVILLE.

PUBLIC BUILDING.

The post office and money order fittings throughout were altered, rearranged and added to and some repairs were made to painting, kalsomining and plastering. All under the supervision of Thos. H. Hastings, of this department.

BRAMPTON.

PUBLIC BUILDING.

The interior of this building was entirely cleaned and renovated and had new electric wiring and fittings installed as also a new maple floor in lobby.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

BRANTFORD.

PUBLIC BUILDING.

The building was wired throughout for electric lighting. Fire escapes were provided and fixed to the building. A portion of the deck roof was raised; the deck was repaired and recovered with galvanized iron; the plumbing was renovated; new furniture was supplied to the customs and inland revenue offices; new granite entrance steps were built and some window shades provided.

Work supervised by L. H. Taylor, architect.

CHATHAM.

DRILL HALL.

This building which was described in a previous report is completed and fitted up with hot water heating, electric lighting, &c.

SESSIONAL PAPER No. 19

PUBLIC BUILDING.

The drain was repaired; the ceilings and walls of post office were painted and the screen cleaned and varnished.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

CLINTON.

PUBLIC BUILDING.

The porch was closed with a glass screen under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

FORT WILLIAM.

PUBLIC BUILDING.

An inclosure fence was erected and a number of articles of furniture was supplied the inland revenues offices together with some linoleum; all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

GUELPH.

ARMOURY.

This building, which was described in my report for last year, is yet under construction. Plans for hot water heating and electric lighting services are prepared.

Plans, &c., prepared by this department.

Clerk of works, W. A. Mahoney.

Contractors, Nagle and Mills.

GODERICH.

PUBLIC BUILDING.

Alterations and rearrangement of the public lobby screen were made under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

HAMILTON.

NEW DRILL SHED.

The original Hamilton drill shed to which this building is to be attached, was described in the report of this department for the fiscal year 1886-7.

A contract was entered into for the construction of this building on July 31, 1906, and the works are in progress. The building is situated on Hughson street, south of and 80 feet distant from the original building with which it is to be connected by an extension of the two-story portion of the frontage of the new building. The new building, exclusive of the connecting portion, has a frontage of 167 feet by a depth of 300 feet and consists of a main hall 128 feet wide by 236 feet long, having on the northern side and both ends a two-story and basement portion 33 feet in breadth along rear of drill hall. The drill hall has driveway arched opening to it from front and rear, and there is one arched driveway entrance to yard between the halls through that portion of the building which connects the old and new halls. There is a basement extending throughout the two-story portions; that at the rear of the drill hall contains lavatories and storerooms; along side of the drill hall are bowling alleys and shooting galleries,

7-8 EDWARD VII., A. 1908

and on the street front are kitchens, lavatories, bathrooms, water closets and store-rooms. On the ground floor are 17 armouries, 2 maxim gun rooms, 2 C.O. rooms, 2 Q.M. stores, 2 adjutant's rooms, 2 orderly rooms, 2 map store rooms, 2 signal corps rooms, 2 stretcher' corps rooms and a residence consisting of 6 rooms and a kitchen. On the first floor are 2 officers' mess rooms, 2 officers' billiard rooms, 2 sergeants' mess rooms, 3 band rooms, 2 reading rooms, 1 lecture room, 1 men's recreation and lavatory and W.C. rooms. In the loft of each tower is a room, two for bugle band rooms and two unappropriated.

The walls are of brick with stone dressings, and on stone basement and foundation walls.

Plans, &c., prepared and work supervised by W. W. Stewart.

Contractor, George F. Webb.

ALTERATIONS OF POST OFFICE.

On December 4, 1906, a contract was entered into for extensive alterations of and additions to the post office fittings together with other and incidental works therewith. These include the renewal of the rear stairway, the construction of a number of partitions, the forming of a mail bag room with a storeroom having a stairway thereto over; the opening of a new entrance to the mail bag room from yard; tiling the public lobby; putting a new skylight in the one-story portion; a new room with stairs thereto over vault, and sundry minor works.

Plans, &c., prepared by this department and work supervised by W. W. Stewart, architect, Hamilton, Ont.

INGERSOLL.

PUBLIC BUILDING.

A new entrance porch was erected and a new lavatory fitted up in the post office; all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

KINGSTON.

ARTILLERY PARK BARRACKS.

Men's Quarters—Alterations and Additions.

This building is being fitted up with a hot water heating apparatus, plumbing, &c., together with new stairways, stone porch, metal roof covering, gutters and down pipes, stone chimney shaft, fireplaces, &c. A basement was excavated under 40 feet of the middle of the building, and the walls carried down the required depth, forming a furnace room, fuel room and store room, and ducts for the heating pipes were formed in concrete along the outer walls. A wooden shed to store the kitchen coal was built at one end of the building constructed of wood on a concrete foundation. Some brick partitions were built in basement and various doorways were built up and some broken out and new jambs built in brick.

Plans, &c., prepared by this department and work supervised by H. B. Smith, architect, Kingston, Ont.

CUSTOM-HOUSE.

A new water closet was fitted up in basement in place of one broken and a new electric light switch was installed.

Repairs were made to lawn pipes, water pipes, glazing, heating apparatus, &c.

All under the supervision of Arthur Ellis, architect, Kingston, Ont.

SESSIONAL PAPER No. 19

KINGSTON.

POST OFFICE.

The original letter sorting racks and bunks were taken out and replaced by new; a letter stamping machine was fitted up; the flooring of vestibule of clerk's room was renewed; a plank walk was laid from Wellington street entrance to clerks entrance; a new mail sleigh was provided; the streets boxes for letters and parcels were painted, and repairs were made to yard gates, furnace doors, water and heating pipes, carpentry, locks, glazing, lighting, &c., &c.

All done under the supervision of Arthur Ellis, architect, Kingston, Ont.

LONDON.

MILITARY STORE BUILDING.

This building which was described in my report of last year is now completed and fitted up with a hot water heating apparatus and electric lighting. Tenders are about to be invited for an electrical freight elevator.

Plans, &c., prepared by this department.

Clerk of works, Wm. Joanes, architect.

Contractor, R. G. Wilson.

Contractor for heating, Smith Bros & Co.

Contractor for wiring, The Rogers Electric Co.

POST OFFICE ALTERATIONS AND ADDITIONS.

The works described in my report of last year were completed within that fiscal year and a contract was entered into April 2, 1906, for the post office fittings which are now completed.

Plans prepared and work supervised by H. C. McBride, architect.

Contractor, Wm. Tytler.

NIAGARA FALLS.

PUBLIC BUILDING.

The stonework was repaired and pointed; a new cement platform and new stone steps were put in main entrance; the drains were overhauled; the rain water conductors were overhauled; a new handrail was put up at main post office entrance; the woodwork was painted or oiled and varnished; some kalsomining was done and repairs were done to carpentry and plastering.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

NORTH BAY,

PUBLIC BUILDING.

A contract was entered into on July 30, 1906, for the construction of this building on a site at the intersection of Main and Fraser streets having respective frontages of 66 feet and 132 feet. The building has a frontage of 55 feet on Main street by a depth of 89 feet and is two stories of brick with stone dressings and on a stone basement.

The roof cornice, balustrade and pediment are galvanized iron, the quoins on the street fronts, the pilasters, window and door jambs, lintels, sills, &c., of doors and windows on Main street as also the lintels, keystones and sills of the openings of the remaining portions of the building are of cut stone.

7-8 EDWARD VII., A. 1908

The basement is for storage, heating apparatus and fuel; the ground floor for the post office, examining warehouse and weights and measures office, and the first floor for the customs, inland revenue and militia. The floors, roof and stairway, excepting the floors of basement and lavatories which are concrete, are of wood. There is a brick vault on ground floor and one on first floor.

Plans, &c., prepared by this department.

Clerk of works, W. A. Martin.

Contractors, McGillivray and Labelle.

ORANGEVILLE.

PUBLIC BUILDING.

A new post office box and drawer screen and a new maple floor were put in; the building was painted inside, and out and a new fence was constructed.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

ORILLIA.

PUBLIC BUILDING.

New post office fittings and furniture, a new maple floor in post office and a new lavatory were put in, the electric wiring was repaired and a number of awnings supplied to the customs offices.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

OSHAWA.

PUBLIC BUILDING.

Repairs were made to drains and a new lavatory fitted up under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

OTTAWA.

DOMINION ARCHIVES BUILDING.

This building has been fitted up with an elevator in addition to what I have previously reported and is occupied.

BIOLOGICAL LABORATORY.

A water and gas service was laid from the building to the stables.

Alterations of and additions to the hot water heating apparatus and plumbing were effected and a system of electric bells hung.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

DOMINION OBSERVATORY.

A three-inch overflow was put in the water supply tank, and an electrical centrifugal pump was installed to raise water to this tank. An electrical fan was fitted up in the photographers room.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

SESSIONAL PAPER No. 19

OTTAWA.

CANADIAN BUILDING, SLATER STREET.

This is a rented building.

Four new wash basins were supplied and connected, the closets were overhauled, twenty new electric lights were installed, electric bell connections were hung and some minor repairs effected.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

CITY POST OFFICE.

The heating, plumbing and lighting services were completed and a tower clock with one dial facing the east is about to be set up in the attic.

The street letter and newspaper boxes were repainted one coat.

Work done under the superintendence of this department and in most part by the departmental staff of artisans.

Clerk of works, S. Adams.

CUSTOM-HOUSE—NO. 98 WELLINGTON STREET.

This is a rented building which was formerly occupied by the statistical branch of the customs department. To fit it for a custom-house a new stairs was erected and the interior completely renovated, the woodwork painted, the plastering tinted, a number of partitions altered in position. The heating apparatus was repaired and added to.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

EASTERN BLOCK.

Seven rooms were cleaned, painted and tinted for the Finance Department, two for the Privy Council, three for the Justice and one for the Secretary of State; three hardwood floors were laid, two for the Finance Department and one for the Privy Council; sixteen new windows were put in, eight for the Auditor General, four for the Justice and two each for the Privy Council and Secretary of State. Of articles of furniture there were supplied twenty-six cupboards, eighteen of which were for the Auditor General's Department, four for the Secretary of State, three for the Finance and one for the Privy Council; nineteen tables of which eleven were for the Auditor General, five for the Secretary of State and four for the Finance; three chairs for the Privy Council; three firescreens, two for the Auditor General's Department and one for the Secretary of State; a hardwood chest for the Secretary of State and a desk for the Finance.

Four rods and curtains, two coat and hat strips, two desk lamps, one grate back, one steam coil, one electric bell and two drop lights were furnished the Finance Department; seven desk lamps were supplied the Auditor General's Department and two gas grates and as many electric lamps to the Privy Council.

Seven doors were recovered with baize, five for the Justice Department and two for the Privy Council.

Fifty-five articles of furniture were repaired and renovated, twenty-seven for the Auditor General's department, eleven for the Justice, ten for the Finance and seven for the Secretary of State. Two pigeon hole cases and one window deflector were supplied to the Secretary of State. Fifty-five lights of glass were furnished and glazed. A water service filter was installed.

7-8 EDWARD VII., A. 1908

There were minor jobs such as lettering, painting, general repairs, &c. The double windows and summer blinds were taken off, stored, cleaned and put on periodically, and the roofs, footpaths and roads were kept free from snow during winter.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

GEOLOGICAL MUSEUM, SUSSEX STREET.

There were supplied and connected, one hot water heating coil, two hot water heating radiators, thirty-three drop lights, eight desk lamps, fifteen Auer light mantles and two wooden lead lined sinks. In the Johnston annex two rooms were fitted up for photographic purposes. The roof was thoroughly repaired throughout.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

GOVERNMENT HOUSE.

The addition referred to in last year's report is completed. Two marble mantels were removed from the dining room and two carved wood mantels substituted. Three carved wood mantels were set in the new wing, one in H.E.'s office, one in the sitting room and one in the adjoining bedroom.

A boiler house and coal pit, 8 feet in depth, with concrete walls and a brick chimney was built under potting shed of small greenhouse and a wooden shed was built over coal pit. A hot water heating apparatus was fitted up in this pit.

A new conservatory on a line with and abutting the new wing was begun and completed during the fiscal year. The basement is of concrete and the superstructure iron and glass. It consists of a middle portion, 80 feet by 50 feet, and two wings on opposite sides, 100 feet long by 35 feet broad, the long axis of the middle portion, which has demi duodecagon ends, being at right angles to the long axes of the wings. There is a basement, 9 feet from floor to ceiling, under the middle portion, which is 36 feet in height from floor to ridge; the wings being 15 feet from floor to ridge. A doorway was made between the house and the greenhouse. The heating is by steam. Tile drains are laid about the outer walls inside to take the waste water from roofs; concrete division walls 5 feet high divide each wing into two sections, and the stone curbs of plant beds as well as the brick paths are carried on concrete foundations. There is a very extensive system of water supply. Stone curbs about pits have cedar copings carrying iron frames for fixing wires for tying purposes and concrete curbs are run about all beds where they border on paths. Plant tables, propagating tables, &c., are of iron construction, carrying concrete slabs to form table bottoms.

A section 6 feet in length was taken from the end of the potting shed and an addition was built at the east side of the potting shed to make up the room lost. The wood floor of potting shed was removed and a concrete floor substituted, after which it was fitted with potting tables, soil bins, shelves and racks for pots, cupboards for glass vases, &c., a sink, a W.C. and a complete water service which service was extended to the small greenhouse and the hot beds. Four potting boxes were made for palms to replace others damaged and useless.

The terrace on grounds was graded up and continued around new office wing and sodded and a concrete catch basin put on upper level of terrace.

The coal bin under studio was enlarged. A new dais was built at end of ball room. Of painting and glazing to house, cottage, greenhouses, stables, outbuildings, fences, &c., there were 5,437 yards painting 2 or 3 coat work; 1,035 yards tinting of walls and ceilings; 320 yards shellacking and varnishing floors; 125 yards enamelling furniture, &c.; 83 rolls paper hung; 16,822 feet super glazing and 35 days of a painter varnishing, lettering, patching, &c. A coal bin was built in shed at stables; the loft

SESSIONAL PAPER No. 19

of stable was floored to make storage room; 10 pairs of sashes were made and fitted in stables to replace those worn out and numerous minor repairs were made in stables, harness room, men's rooms and about outbuildings generally. Alterations of the stage in ball room were made by moving the proscenium forward and adding 4 feet to the breadth of the stage; a stepped staging with temporary flooring was provided in the auditorium to afford a better view of stage; new scenery and a drop curtain were painted and electric footlights and headlights were substituted for those of gas. A number of changes were made in the lighting of rooms; electric wiring was run from house to log cabin and drop lights put in to replace oil lamps. Sink in housemaids pantry was relined; a new cooking stove was supplied coachman's house; two coal stoves and one wood stove were supplied stables, rink, &c. Of household furniture there were supplied to the house, 1 billiard table with cues, &c., 4 chairs, 3 tables, 5 screens 2 chests, 1 stool, 2 pairs handirons and 2 brass candlesticks and supplied to the cottage 15 chairs, 1 wardrobe and 2 tables. A large number of chairs, sofas and screens were recovered; 28 dining room chairs were repaired and reupholstered in leather and repairs were made to tables, chairs, bedsteads, &c. At the Hall there were supplied, 2 large hand tufted rugs, 294 $\frac{3}{4}$ yards of Wilton carpet, 58 yards cocoa matting, 3 cocoa mats and 3 small rugs; at the cottage there were supplied 27 yards Brussels carpet, 46 yards Wilton carpet, 1 Brussels rug, 4 pairs taffeta curtains, 6 cushions and 1 pillow. Of curtains there were supplied the house 7 holland blinds, 30 pairs swiss curtains, 7 pairs velour curtains and 6 pairs tambour curtains. Of electric lights there were 1-6 light, 8-3 light pendants and 2-1 light pendant supplied to the house. Changes in position of electric bells, coils and radiators were made to suit occupants of rooms and a number of them repaired. There were also supplied, 48 table cloths, 40 dozen napkins, 6 dozen towels, 167 articles of glassware, 33 articles of stone-ware, 230 articles of china, 74 pieces of bedroom ware, 61 kitchen utensils, 6 cupboards, 2 wardrobes, 2 sets of open book shelves, 5 cases with glass fronts and 36 hot bed and melon frames and sashes. A doorway was broken through wall on first floor of laundry and a frame and glazed door hung.

The boat houses were made good and the float enlarged. The path around cliff leading to boat houses was repaired. The skating rink was enlarged on the north side 12 feet by 165 feet, necessitating rock excavation and earth levelling up. Two hundred and fifty-five lineal feet of close board fence, 6 feet high, with two pairs of gates were constructed and the fences generally were repaired. The sidewalks and crossings were repaired using 5,100 feet lineal of 2-inch and 3-inch plank and 235 lineal feet of cedars.

The conservatories were kept in order, the lawns, drives, &c., rolled and otherwise tended. The ice-house was stored with ice. The roofs, paths, slides, rinks, &c., were cleared of snow by the departmental staff, by whom the grounds, lawns, gardens and plant-houses were maintained.

The usual periodic cleaning, packing and unpacking were done; arrangements for and attendance on entertainments were furnished, and the rinks, slides, &c., kept in order.

Work done under the supervision of Wm. Hutchison, superintendent.

PARLIAMENT GROUNDS.

The government dump at the northern end of Bank street was enlarged and improved. The main sewer from the western block was overhauled and repaired; the lower end removed and relaid in reinforced concrete pipe. The iron flag masts on the Parliament buildings terrace were removed and replaced by wooden masts. Alterations were made in the gas mains and repairs to the walks.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

7-8 EDWARD VII., A. 1908

OTTAWA.

IMPERIAL BUILDING.

This is a rented building on the south side of Queen street near O'Connor street.

The offices therein were vacated by the immigration branch of the Interior department and occupied by the Stationery branch of the same department, necessitating the putting in of a large quantity of shelving and the execution of various alterations.

Connections were made for a gas stove and a large amount of drilling, cutting and making good were done in walls, cement floors, &c., for the placing of wires, pipes, &c.

LABOUR DEPARTMENT.

This is a suite of rented offices, situated on Metcalfe street, opposite the Langevin block.

Three pine chests and nine lights were supplied and repairs were made to doors, windows and furniture.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

LANGEVIN BLOCK.

The terra cotta partitions at the eastern end of the attic were removed and wooden glazed partitions substituted. Of rooms cleaned, tinted and painted, 9 were for the Agriculture, 16 for the Post Office and 21 for the Interior and Indian Affairs. Thirty-five signs were lettered for the Agriculture, thirty-one for the Interior and Indian Affairs, and six for the Post Office; twenty-six articles of furniture were painted, shellacked or varnished for the Agriculture, forty-four for the Interior and Indian Affairs and forty-three for the Post Office; fourteen cupboards were supplied to the Agriculture department, twelve to the Interior and Indian Affairs and three to the Post Office; two bookcases were supplied to the Agriculture department and two to the Post Office; nine window screens were supplied to the Agriculture department; two map cases were supplied to the Agriculture department and four to the Indian Affairs; ten brass rods with curtains were supplied to the Agriculture department, fourteen to the Interior and Indian Affairs and five to the Post Office; two fire screens and fifteen desk lamps were supplied to the Agriculture department; eight dozen hat and coat hooks on wood cleats were supplied to the Agriculture department; thirty coat and hat strips with hooks were supplied the Interior and Indian Affairs, and 54 boards with 230 coat and hat hooks to the Post Office; 500 lineal feet of picture moulding was supplied the Agriculture department and 75 feet to the Post Office; two desks were supplied to the Agriculture department, three to the Indian Affairs and Interior; twenty-four tables were supplied to the Agriculture department, forty-one to the Indian Affairs and Interior and nineteen to the Post Office; a cabinet was supplied to the Agriculture department; twenty-four chairs, 8 stools and two sofas were supplied to the Post Office department, twelve chairs and one sofa to the Agriculture department; twenty chairs and seventeen chair cushions to the Indian Affairs and Interior; twenty-one cases and boxes were supplied the Agriculture department; six step ladders were supplied to the Indian Affairs and Interior and seven to the Post Office department; four plan cases and two hardwood chests were supplied to the Indian Affairs and Interior; six sinks, fourteen switches, four desk lamps, fifteen lamps of other sorts and twelve panel boards were supplied to the Department of Indian Affairs; a considerable quantity of shelving was fitted up and a large number of articles of furniture repaired. General repairs were effected to carpentry, plastering, cement, joinery, painting and glazing.

Work done under the supervision of the department.

Superintendent, John Shearer, jr.

SESSIONAL PAPER No. 19

OTTAWA.

BRANCH OF ROYAL MINT.

This building is being fitted up with heating apparatus, steam heating in the workshops and hot water heating in the administration portion. The workshops are now ready to receive the machinery and fittings.

Plans, &c., prepared by this department.

Clerk of works, Geo. Stockand.

Contractors, Sullivan and Langdon.

PARLIAMENT BUILDINGS.

In the Senate, five rooms were renovated, fifteen door signs lettered, 21 lights glazed, two hundred numbers written, a hardwood floor with parquetry border laid in Speaker's apartments, the Speaker's apartments renovated and the ceiling lights of the Chambers changed from 10 c.p. lamps to No. 2 Glower-Nernst lamps. Three cupboards, three desks, three tables, two door frames and ten coat and hat strips, a new gas stove, two sinks and a number of gas lighting fixtures were supplied. Rubber pads were fixed on the treads of the Senate stairway.

In the House of Commons 19 rooms were cleaned, tinted and painted, 24 signs lettered, 400 numbers were stencilled on cases, the library floor was oiled and shellacked. 3,500 feet of lumber was used for shelving in library, 134 lights of glass were supplied, 4 coils were bronzed, 30 pieces of furniture were furnished, 90 chairs were revarnished and 275 hooks on cleats were placed for hanging paper files. There were supplied 4 benches, 156 chairs, 6 desks, 5 cupboards, 5 tables, 7 pigeon hole cases, 2 chests, 3 sashes, 3 step ladders, 2 cushions, an electric heater, a gas cooking stove, a sink, an electric heater, a call bell, 3 desk lamps, 2 bracket lights and 3 drop lights. The electric lights above the Chamber ceiling were changed from arc to Glower-Nernst (240-2) lamps. The ventilation system is still in progress of construction and is expected to be completed during the next fiscal year.

There were 11,632 visitors registered as having ascended the Parliament Tower during the nine months.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

PARLIAMENT BUILDINGS, ADDITION, ETC.

This work comprises an addition extending from the northwestern tower of the western wing northward until it intersects a similar addition extending westward from the northwestern angle of the residence of the Speaker of the House of Commons; together with various works of alteration of and addition to the adjoining portions of the original building. At the angle of intersection is to be a new tower, similar in all respects to the northwestern tower of the west wing, and an additional story, cornice and roof similar in all respects to those of the same tower are to replace the roof of the Speaker's tower which is to be removed. The curtain walls between the original building and the new angle tower are to be similar in detail throughout to the west face of the west wing excepting that there is to be a full attic story with stone exterior walls instead of the mansard attic of the west wing; further, the mansard attic of the west face of the west wing is to be removed and the stone exterior wall be continued up to the coping of the angle towers and form a full attic story instead of the original mansard attic. The walling and construction generally as well as the details of stonework, carving, &c., are replicas of the original work, excepting that the roof is of iron and cement instead of wood and in some minor features variations rather than changes have been made. There will be a new iron stairway with slate treads, inclosing an elevator which will have a travel from basement to attic and be situated in the northwestern angle of the west wing.

7-8 EDWARD VII., A. 1908

The floors are to be of iron, terra cotta and cement covered with wood in the rooms and with marble mosaic in the passages. The tower roofs are to be covered with copper and the remaining roofs with tar and gravel. The slating of the western wing tower roofs and that of the roofs between them is to be removed and replaced by copper.

Plans, &c., prepared by this department.

Clerk of works, S. Adams.

PRINTING BUREAU.

The twelve-inch tile drain was taken out and replaced by one of cast-iron pipe; three offices and two of the large printing rooms were floored in hardwood; 71 lights were glazed; two oak switch cabinets, two cushions and one hardwood box were furnished; a new door was made; a room formed with partition and ceiling inclosing the engine room and the elevator shaft was extended.

Work done under the superintendence of this department.

Superintendent, John Shearer, jr.

RAILWAY COMMISSION—CORRY BUILDING.

This is a rented building.

Six rooms were tinted and painted, seven signs were made and lettered, 4 lights were glazed, an electric call bell system was hung throughout the building, a glass partition was taken down, changed in position and re-erected. There were supplied, two bookcases, two cupboards, six packing boxes, 1 step ladder, 1 window deflector, 1 ventilator and 1 lavatory basin. Twelve chairs were repaired and the position of a number of steam coils changed.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

REPAIRING STREETS, ETC.

Scraping, cleaning and general repairs were done to the various roadways, footpaths and streets under the control of the department. Rubbish, scrapings and ashes were removed from the east block, west block, Langevin block, Parliament building, the workshops, printing bureau, the museum, the archives building, the several rented buildings and the various streets, and deposited at Nepean point; the grass at printing bureau, about Cartier square, Wellington street, two bridges, survey office, fisheries museum and Geological museum was kept clipped, manure was drawn on and removed therefrom, and the ashes removed from the boiler houses and furnace rooms of the various buildings; the roadways, sidewalks, footpaths, roofs and yards were kept clean of snow during the winter.

Work done by the departmental staff.

SUPREME AND EXCHEQUER COURTS.

Two rooms were renovated; the lavatories on the ground and first floors were renovated, refloored in tile on concrete, the plaster removed and replaced by plaster on metallic lath and the closet and lavatory basins, urinals and plumbing as well as the heating removed and replaced by new. The library was relighted, had 6 desk lamps and 20 lamp guards, 1 table, 4 stepladders and 90 feet of shelving supplied, as well as 21 chairs repaired.

Work done by the departmental staff under the supervision of John Shearer, jr., superintendent.

Library Extension.

A contract for the construction of this extension was entered into October 17, 1906. It is one story in height situated on the eastern side of the present library and mea-

SESSIONAL PAPER No. 19

tures 38 by 66 feet 6 inches outside; there is also a small extension from the Registrar's room and the conference room over, as well as a circular stairway leading from the library to the conference room. The window openings of the eastern side of the original library are utilized in making the openings between the library and the extension; the dividing piers as well as the walling from lower side of lintel to ceiling and upper side of sill to floor are removed, the stonewall above being supported on steel beams. The walling and openings are similar to those in the existing work.

Plans, &c., prepared by this department.

Clerk of works, D. J. Mullarkey.

Contractor, Doran and Devlin.

VICTORIA MEMORIAL MUSEUM.

This work, which was described in my report of last year, was continuously under construction during the summer and autumn of 1906.

Plans and specifications prepared by this department.

Clerk of works, P. Canty.

Contractor, George Goodwin.

WESTERN BLOCK.

A portion of the facing of the basement wall at the eastern side was taken down and rebuilt.

Twenty-eight rooms were cleaned, tinted and painted, twelve being for the Public Works department, seven for the Inland Revenue, four each for the Railways and Canals and Marine and Fisheries and one for the Customs; hardwood floors were laid in eight rooms, three each for the Marine and Fisheries and Public Works and two for the Trade and Commerce; one hundred and twenty-six signs were lettered, eighty-seven being for the Customs, eighteen for the Trade and Commerce, fourteen for the Public Works, three for the Railways and Canals and two for the Marine and Fisheries; five hundred and twenty lights were glazed, one hundred and forty-four for the Public Works, one hundred and three for the Customs, forty-three for the Railways and Canals, twenty-eight for the Inland Revenue and two for the Trade and Commerce; one hundred and thirty-five articles of furniture were renovated, one hundred and twelve for the Public Works, eleven for the Inland Revenue, seven for the Railways and Canals and five for the Customs; repairs were made to 125 articles of furniture, one hundred and thirteen of which were for the Public Works and the remainder for the Railways and Canals; forty-two coat and hat strips were supplied, eighteen to the Public Works, twelve to the Trade and Commerce and six each to the Railways and Canals and Marine and Fisheries; sixteen brass rods with curtains were supplied, four to the Public Works, three each to the Mounted Police and Marine and Fisheries and two each to the Customs and Inland Revenue; thirty-four cupboards were supplied, twenty-four to the Public Works, four to the Customs and three each to the Inland Revenue and the Marine and Fisheries; twenty-eight tables were supplied, eleven to the Marine and Fisheries, eight to the Railways and Canals, six to the Customs and three to the Inland Revenue; two hundred and fifteen packing boxes were supplied, one hundred and ninety-five to the Public Works, fifteen to the Customs, three to the Trade and Commerce and two to the Railways and Canals; ten stepladders were supplied, six to the Public Works and four to the Railways and Canals; thirty-four boxes were supplied, twenty-four to the Public Works and ten to the Marine and Fisheries; two cloth doors each were supplied to the Public Works and Railways and Canals; eleven window deflectors were supplied to the Marine and Fisheries and two to the Customs; twenty-four desk lamps were supplied, fifteen to the Railways and Canals, four to the Marine and Fisheries, three to the Customs and two to the Inland Revenue; one hundred and thirty-two drop lights were supplied and

7-8 EDWARD VII., A. 1908

connected, one hundred and eight to the Customs and the remainder to the Railways and Canals; two telephone boxes were provided for the Customs department and one for the Marine and Fisheries, and there were sixteen chair cushions supplied, twelve for the Public Works and four for the Railways and Canals. For the Public Works department there were also provided six stools, one counter, three skylight sash, three new windows, five oak cabinets, nine plan cases, twenty-one drawing boards, forty-five feet of shelving and two window ventilators and there were repairs to 10 chair cushions. For the Customs there were supplied three wood panels, three steam and two electric radiators and three lettered bell blocks. For the Marine and Fisheries there were supplied two map racks, nine chairs, one lavatory basin, two chair cases, four models for fish culture, one electric fan, one gas stove and six new windows and frames. For the Inland Revenue were provided 78 feet of glass partition, one sink, three chair cushions and 60 feet of picture moulding. For the Railways and Canals were provided one glass partition, two newspaper files, eight picture frames and three electric bell services. For the Mounted Police department there were furnished one electric desk fan and one 4 light electroliers, and for the Trade and Commerce one electric bell service. For Mr. Lacas' photographic printing room there were supplied twenty-four special electric lamps for printing machine, two sprayers, one enamelled sink and all necessary pipes, valves, &c.

A large number of lights of glass was renewed.

There were also a large number of repairs to furniture as also minor jobs of painting, lettering and of joinery. The roofs, roads and footpaths were kept free from snow. The winter sashes and summer blinds were cleaned, put on, taken off and stored periodically.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

WOODS BUILDING (66 QUEEN STREET).

This is a rented building.

The ground floor previously occupied by the Ottawa Customs was refitted throughout for the use of the Railway Commission.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

WOODS BUILDING, SLATER STREET—DEPARTMENT OF MILITIA.

This is a rented building. Fifty signs were lettered, forty-two lights glazed, one room cleaned and tinted, a brick partition was removed, the call bells and telephones were in part readjusted owing to occupation of the seventh floor, and a large quantity of making good, cement, plaster, wood finish and painting were done. There were supplied two book cases, twelve chairs, nineteen cupboards, ten brass rods and curtains, two letter boxes, a telephone cabinet, ten picture frames, seventeen tables, one counter, one desk, one indicator case, six chair cushions, one blue print bath, ten bookcase doors, sixteen hat and coat strips, fifty feet of shelving, thirty-nine drop lights, one lavatory basin, four goose neck lamps, four desk lamps, four shades, twelve push buttons, one annunciator, three blocks, two electric bells as well as rosettes, hangers, wire, &c., &c.

Work done under the supervision of this department.

Superintendent, John Shearer, jr.

OTTAWA.

BUILDINGS AND GROUNDS GENERALLY.

In addition to the works mentioned in the foregoing, there are innumerable smaller works, *i.e.*, there are items of repair done by the roofers, the masons, plumbers and other trades; items taking each a number of days' work of a tradesman, besides material to

SESSIONAL PAPER No. 19

accomplish. Besides all these, in connection with the various other buildings, the property of the government, there are similar works of repair, painting, furnishing, tinting, &c., in connection with a number of rented buildings; also such works as repairs to and renewals of coal and other sheds, as well as works of a general character, such as the erection and taking down and storing of porches, winter boarding outside steps, &c., &c., all of which are done by the departmental staff.

PETROLEA.

PUBLIC BUILDING.

The interior was painted and kalsomined, a new hardwood floor was laid in post office, a new concrete floor in lobby and some repairs were made to furniture, all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

PORT ARTHUR.

PUBLIC BUILDING.

An asphalt block pavement was laid on Arthur street from South Water street to Court street, and a 6 foot concrete sidewalk on the east side of Court street from Arthur to Van Norman street.

The interior and exterior woodwork was painted and the interior walls and ceilings tinted, the electric lighting was added to and the plumbing overhauled. In the customs suite, on first floor, a partition between two rooms was removed, two doorways were opened in a partition and the long room counter was lengthened. A door and frame was put in the bath room partition. The lighting service was rewired and a number of fixtures supplied. Alterations of the plumbing were effected.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

PORT COLBORNE.

PUBLIC BUILDING.

The building was painted externally, a bath room with bath and other plumbing was put in caretaker's quarters, a new cesspool was built in yard and a new hardwood floor was laid in canal office.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

SARNIA.

PUBLIC BUILDING.

Alterations and rearrangement of and addition to the post office box and drawer screen were effected; a screen was erected at head of stairs; the customs fittings were altered and the quarters of the caretaker were papered and kalsomined.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

ST. THOMAS.

PUBLIC BUILDING.

A lavatory and bath were fitted up in caretaker's quarters and some minor general repairs done to the building, all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

7-8 EDWARD VII., A. 1908

SANDWICH.

POST OFFICE.

This building, which was described in a previous report is completed, fitted with electric lighting, hot water heating, office fittings, furniture, &c., and occupied.

Plans, &c., prepared by this department.

Clerk of works, John Maclean.

Contractor, Geo. Alfred Proctor.

Contractor for fittings, J. Maclean.

Contractor for footpaths, C. W. Cadwell.

STRATFORD.

ARMOURIES.

This building which was described in a previous report is completed, fitted with electric lighting, hot water heating, armoury fittings, &c.

The grading of the grounds was done by day labour under the superintendence of Neil R. Darragh, architect, St. Thomas, Ont.

Plans, &c., prepared and work supervised by H. C. Macbride, architect, London.

Contractors, Nagle & Mills.

Contractor for fitting, D. Essen.

PUBLIC BUILDING.

Alterations and rearrangements of post office fittings and lighting were effected; the caretaker's quarters were painted and kalsomined and the boiler repaired.

Work supervised by Thos. H. Hastings, of this department, Toronto, Ont.

ST. MARYS.

PUBLIC BUILDING.

A contract for the construction of this building on a site at the corner of Water and Queen streets was entered into on September 29, 1906.

The building consists of a main portion of two stories and basement of stone with a wooden attic, having a frontage of 50 feet by a depth of 40 feet and a one-story and basement adjunct of stone, in rear, 52 feet long by 19 feet broad. The basement is for the heating apparatus, fuel and stores; the ground floor for the post office in the main portion and for the examining warehouse, weights and measures and water closets in the adjunct; the first floor for the customs and inland revenue, while the attic is unfinished. There are brick vaults one each on basement, ground and first floors. A number of the partitions on the first floor, the stairways, the roof and the floors excepting the basement floor which is concrete are of wood, the partitions generally being of brick.

Plans, &c., prepared by this department.

Clerk of works, J. C. Weiderhold.

Contractor, Robert Cameron.

TORONTO.

INLAND REVENUE BUILDING.

An iron hood was placed over entrance and metallic steps provided, a new drain with traps was laid; the building was painted inside and outside and a number of articles of furniture supplied. All under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

SESSIONAL PAPER No. 19

ST. MARYS.

DRILL HALL EXTENSION.

This work which was described in my report of last year is yet in progress. Plans for hot water heating and electric lighting services are prepared.

Plans, &c., prepared by this department and work supervised by S. G. Curry, architect.

Contractors, Sullivan & Langdon.

POSTAL STATION 'F'.

This building which was described in a previous report is yet in progress of construction. Hot water heating and electric lighting are being installed.

Plans and specification prepared by this department and work supervised by S. G. Curry, architect.

Contractors, Brown and Love.

Contractors for hot water heating system, Bennett & Wright.

Contractors for post office fittings, Chas. Rogers & Son Co.

Contractors for electric wiring, McDonald & Wilson.

GENERAL POST OFFICE.

A new screen was erected and the street letter and newspaper boxes were painted; all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

POSTAL STATIONS 'B' AND 'G.'

Alterations, painting and repainting were executed at these buildings under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

WALKERTON.

PUBLIC BUILDING.

This building was cleaned, painted and kalsomined and repairs were made to carpentry, all under the supervision of Thos. H. Hastings, of this department, Toronto, Ont.

PROVINCE OF MANITOBA.

BRANDON.

The offices of the inland revenue were furnished, fitted up, carpeted, &c.

The interior of the building was cleaned, the walls and ceilings tinted and the woodwork painted under the supervision of Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

PORTAGE LA PRAIRIE.

PUBLIC BUILDING.

The customs long room was enlarged, the counter therein extended and necessary filing cases provided. The collector's office was fitted up and plumbing fixtures installed throughout the building.

Work supervised by Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

7-8 EDWARD VII., A. 1908

ST. BONIFACE.

PUBLIC BUILDING.

A contract was entered into on March 4, 1907, for the construction of this building on a site having a frontage of 66 feet on Provencher street and extending back along Aulneau street, a distance of 99 feet to a lane in the rear.

The building is two stories, of brick, with stone dressings, and on a stone basement measuring 34 feet by 54 feet. The basement is lined with brick; there are brick vaults, one each in basement and on ground floor and two on first floor, and the partitions of basement and ground floor as well as the chimney are of brick. The floors, stairway and roof, excepting the basement floor which is concrete, are of wood; the roof covered with tar and gravel. The basement is for heating apparatus, fuel and storage; on the ground floor the front portion is for the post office and the rear for the weights and measures and examining warehouse. There are lavatory rooms on both ground and first floors.

Plans, &c., prepared by this department.

Clerk of works, Stanislaus Paquette.

Contractor, J. McDiarmid.

WINNIPEG.

CUSTOM-HOUSE.

A telephone box and a counter were fitted up; repairs were made to plumbing, carpentry, gas fitting, eaves trough and furnace and some articles of furniture supplied.

Work supervised by Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

EXAMINING WAREHOUSE.

The test room was extended, fire extinguishers and grate bars were supplied, alterations in gas fittings were made and repairs effected to furnace, scales, &c., under the supervision of Jos. Greenfield, superintendent of public buildings, Winnipeg, Man.

IMMIGRATION BUILDING, NO. 1.

This building is completed, fitted up with electric lighting, electric bells, hot water heating, ventilating fans, electric elevator, fire-extinguishing plant, incinerator, water storage tank, electric pump with electric starting machinery of a capacity to ensure abundance of water, beds, furniture, fittings, carpets, wire window guards, wire fences, &c., &c.

Plans, &c., prepared by this department and work supervised by Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

IMMIGRATION BUILDING NO. 2.

Troughs, were fixed to all eaves, the electric wire connected at the building was overhauled and the building was supplied with fire extinguishers; all under the supervision of Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

IMMIGRATION BUILDING NO. 3.

The plank floors were taken up and replaced by cement floors, troughs were fixed to all eaves, and ventilation fans were installed for the purpose of ventilation; all under the supervision of Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

SESSIONAL PAPER No. 19

WINNIPEG.

LANDS OFFICE.

Repairs were made to heating, drainage, tank and doors and the shelving in vault was extended; all under the supervision of Jos. Greenfield, superintendent of public buildings Manitoba, Winnipeg, Man.

MILITARY STORES BUILDING.

This building, which was described in a previous report, is completed and occupied. An electric elevator and electric lighting were installed; fittings for stores were erected; a granolithic walk was laid; a fence and gates built; awnings supplied; the superintendent's quarters were papered, and fire extinguishers were supplied.

Work supervised by Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

POST OFFICE.

The mezzanine floor was further extended; a large water tank was supplied; two hand elevators were fitted up; electricity was substituted for gas in lighting letter sorting department, and there were supplied, steel cabinets, special sorting cases and baggage trucks.

Work supervised by Jos. Greenfield, superintendent of public buildings, Manitoba, Winnipeg, Man.

NEW POST OFFICE.

The construction of this building, which was described in my report of last year, has since been continuously carried on and is still in progress.

Plans prepared and work supervised by Darling and Pearson, architects, Toronto, Ont.

Contractors, Kelley Bros. Company.

Clerk of works, Robert Wilson.

PROVINCE OF SASKATCHEWAN.

MEDICINE HAT.

PUBLIC BUILDING.

This building, which was described in my report for 1905-6 is still in progress.

Plans and specification prepared by this department.

Clerk of works, W. D. Williams.

Contractors, Oakes and Everard.

MOOSEJAW.

LAND OFFICE.

Temporary shelving and counters were put in under the supervision of W. T. Mollard, clerk of works, Regina, Sask.

REGINA.

DOMINION LANDS OFFICE.

The office was fitted up with new steel office fittings and furniture and a fire escape outside. Additions and repairs were made in wiring, kalsomining, painting, &c.

Work supervised by W. T. Mollard, clerk of works, Regina, Sask.

7-8 EDWARD VII., A. 1908

POST OFFICE.

The floor area of the post office was increased. The post office fittings were rearranged and added to, the new letter boxes and furniture were provided. General repairs were made to lock boxes, carpentry, &c.; all under the supervision of W. T. Mollard, clerk of works, Regina, Sask.

PUBLIC BUILDING.

This building, which was described in my report of last year, is in progress of construction.

Plans and specification prepared by this department.

Work supervised by W. T. Mollard, clerk of works, Regina, Sask.

PROVINCE OF ALBERTA.

CALGARY.

ADDITION TO POST OFFICE BUILDING.

This building which was described in my report of last year has since been continuously in progress of construction and is being fitted up with hot water heating and electric lighting. Tenders for an electric elevator are about to be invited.

EDMONTON.

IMMIGRANT SHED.

This building, which was described in my report of last year, has been completed, fitted up with hot water heating and electric lighting and furnished ready for occupation.

Plans &c., prepared by this department.

Clerk of works, H. J. Manson.

Contractor for construction, Thomas Page.

Contractor for electric wiring, The N. W. Electric Co.

Contractor for hot water heating apparatus, The Standard Plumbing & Heating Co.

EDMONTON.

PUBLIC BUILDING.

On January 16, 1907, a contract was entered into for the construction of this building on a plot of ground situated on the southwest corner of the intersection of Rice and Macdougall streets having respective frontages of 151 feet and 90 feet.

The building, on plan, measures 130 feet by 80 feet and consists of 3 stories, basement and attic, excepting a portion 22 feet square, on the street corner, which is carried up 5 stories above basement, terminating 86 feet above ground line, and surmounted by an octangular tower with domed top which finishes, 116 feet above ground line exclusive of a flag staff. The external walls and the vaults are of concrete, lined with brick, in basement, and of brick for the succeeding stories. On the street frontages the facing of the basement and ground floor walls, the columns and cornice, the window dressings of the first and second floors, the quoins and dressings of the tower and the walls of the lantern are of stone; the roof of the lantern and the facing of the attic or third floor being wood covered with copper. The piers in basement are brick and iron and the columns reaching up therefrom through the building are iron encased in concrete. The floors and ceilings are iron and plaster excepting those

SESSIONAL PAPER No. 19

inclosing the stairway and lavatories which are brick from the basement floor to the attic ceiling. The basement is undivided excepting that the stairway, elevator and lavatory are inclosed and that there is one concrete vault lined with brick. All the ground floor excepting a portion in rear, measuring on plan 37 feet by 37 feet, for examining warehouse and weights and measures and also the stairway and the vestibule thereto, is the post office; all the first front on Rice street excepting the lavatory and staircase is divided between the post office Inspector and the dead letter branch. The second floor is for the custom-house, and the attic or third floor is unallotted except a small space in rear which is divided into apartments for the caretaker. There are brick vaults on ground, first and second floors.

Clerk of works, H. J. Manson.

Contractors, the May Sharpe Construction Co.

PROVINCE OF BRITISH COLUMBIA.

FERNIE.

PUBLIC BUILDING.

Plans and specification are prepared and tenders invited for the construction of this building on lot 11 Block 10, Town site of Fernie, which site has frontages of 60 feet, 120 feet and 60 feet on Pellat Avenue, Cox street and Lane respectively.

The building has a frontage of 52 feet on Pellat Avenue by a depth of 69 feet. It has two stories of brick, with stone dressings, on a stone basement. In the basement the lining of the outside walls, the piers and the partitions are of brick and there are brick vaults on ground and first floors. The ground and first floor partitions, floors and stairway are of wood, and the basement floor is of concrete. The roof covering is of tar and gravel. The entrance steps, the string course between ground and first floor, and the quoins and keystones on Pellat and Cox streets frontages, are of stone, the stoop and steps to mail entrance and to examining warehouse are of concrete and the cornices and copings are sheet metal.

The basement has furnace room, fuel room, stairway hall and storage; the ground floor has three-fourths of the floor area devoted to the post office and the remainder to stairway hall, vestibule, examining warehouse and weights and measures office, while the first floor contains the customs and inland revenue offices. There are brick safe rooms, one on the ground floor and two on the first floor; separate lavatories for males and females are provided on the first floor. Water supply is from the main in Cox street. The drainage is to a cesspool.

Plans, &c., prepared by this department.

KAMLOOPS.

PUBLIC BUILDING.

The ground and first floors were ceiled with metal; the caretaker's apartments were cleaned, kalsomined and painted; a new partition was erected at head of stairs; a coal bin was constructed in basement; a foot-path street crossing was constructed; a number of fittings were supplied the post office; electric fixtures were supplied and fitted up and repairs were made to front door, awnings and lock letter boxes.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

NELSON.

PUBLIC BUILDING.

The yard and driveway were excavated and paved on rock foundation with tar, gravel and crushed rock; alterations and minor additions were made to post office

7-8 EDWARD VII., A. 1908

fittings; alterations of counter, desk, &c., were made in inland revenue offices; some picture moulding was put up, some lavatory basins fitted up and some transoms changed in the weights and measures office; a lobby was constructed at main entrance with double swinging doors; a driveway for heavy traffic was constructed over sidewalk; a partition was changed; grille work to counter, pigeonhole cupboard, additional lights and drawer locks were supplied the customs offices; a wardrobe was supplied to caretaker; wire screen was fitted over delivery wicket; repairs and alterations of heating, plumbing and cupboards were done, and some linoleum, electric lights, &c., were supplied.

Work done under the supervision of Wm. Henderson, Resident Architect, Victoria, B.C.

NANAIMO.

PUBLIC BUILDING.

Eighteen street letter boxes were painted and varnished; a number of door checks and electric lights were supplied and the woodwork and furniture of customs were in part renovated.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

NEW WESTMINSTER.

INDIAN AFFAIRS AND FISHERIES OFFICE BUILDING.

This building which was described in my report of last year has been completed, fitted up with a hot water heating apparatus and electric lighting and furnished ready for occupation.

Plans, &c., prepared by this department.

Clerk of works, Wm. Turnbull.

Contractors, R. Buckland and J. Carter Smith.

PUBLIC BUILDING.

The examining warehouse was enlarged by taking in the old Indian office and new shelving, pigeonholes, &c., fitted up therefor; the caretaker's quarters were cleaned, kalsomined, painted and varnished; a set of shelves was put in vault; bell batteries and door check were supplied the customs; a bracket, desk and stepladder were supplied the Dominion lands office; a steel wheelbarrow, an ensign, steel hooks, lamps, reflectors, shades and tap were supplied and repairs were effected to plumbing and the woodwork, gas fitting, heating pipes and lawn mower were repaired.

Work done under the supervision of Wm. Henderson, Resident Architect, Victoria, B.C.

VANCOUVER.

POST OFFICE.

This building which was described in my report of last year has been in progress of construction since.

Plans and specification prepared by this department.

Clerk of works, Chas. Tossell.

Contractors, Kelly Bros. & Mitchell, Limited.

PUBLIC BUILDING.

The plumbing generally was repaired; the drain from the building to main sewer and the drain in basement were in part renewed and were cleaned monthly; the stone coping at side entrance was drilled and stayed; the customs department was supplied

SESSIONAL PAPER No. 19

with pigeonhole cases, tables, blinds, cork carpet, standing desks, stool, arm-chairs, lights, door mats, holders, shades, letter-box plate, extension cords and Yale locks; the post office department was supplied with carpets, post office boxes, locks, letter sorting cases, wax heating pot, buzzer, vault fittings, tables, wall desks, letter-box plate, water closet, pigeonhole case, partition gate, guard-rail, shelving, stools, chairs, brackets, hat and coat hooks, door springs, wardrobe, mail truck, cupboard, keyboard, drawers, plate-glass, lumber, nails and cork carpet and the inland revenue department was supplied with two book cases. The roof and skylight were repaired and two galvanized iron canopies were supplied and fitted over skylight; the conductor pipe at western mail entrance was taken down; electric bells were hung and the walls and ceilings kalsomined and the woodwork painted in postmasters room; the post office generally was cleaned, kalsomined and painted; some electric lights were installed; post office boxes, signs and keyboards were lettered or numbered and repairs were made to cancelling machine, clocks, doors, batteries, plumbing, 'phones, buzzer, &c.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

VICTORIA.

INDIAN AFFAIRS AND MARINE OFFICE (OLD CUSTOM-HOUSE.)

The roof of shed was repaired and painted; the old earthenware drain under building was removed and a cast-iron drain substituted; a file cabinet was supplied to the steamboat inspector's office and the plumbing as well as the water service on wharf were repaired.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

MARINE HOSPITAL.

Repairs were made to plumbing, under the supervision of Wm. Henderson, Resident Architect.

PUBLIC BUILDING.

An electric motor, eight pigeonhole cases, a sorting board and envelope rack, locks and keys and 100 feet of hose were supplied the post office; heating stoves and pipes were supplied to and fitted up in the meteorological office; new lights were installed in Appraiser's office and letter carrier's room; coal hods, coal shovels and floor oil were supplied and repairs were made to furnaces, plumbing, bells, &c.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

OLD POST OFFICE BUILDING.

A galvanized iron stack was made for and fitted to chimney and the plumbing and roof repaired under the supervision of Wm. Henderson, Resident Architect, Victoria, B.C.

WILLIAM HEAD.

QUARANTINE STATION.

The wood partition wall between boiler room and retort shed was cut out and brick wall substituted; this wall sustains the roof at one side of the disinfection shed. A convalescent ward for isolation hospital was erected. A retaining wall was constructed in boiler room for coal shed. New doorways to boiler room and retort shed were cut and frames with doors built in. Two boilers were suspended on iron beams and brick piers, the position of one boiler was changed, a new boiler was supplied and connected

7-8 EDWARD VII., A. 1908

and the boilers and steam pipes were covered with asbestos. In the convalescent's building, the old hearths were taken out and renewed; the piping of cylinder and retort was overhauled, and there were supplied and connected four shower baths and one bath tub. Repairs were made to plastering in Dr. Watt's residence and in general hospital.

Work supervised by Wm. Henderson, Resident Architect, Victoria, B.C.

YUKON TERRITORY.

DAWSON.

GOVERNMENT HOUSE.

On December 25, 1906, the interior of this building was damaged by fire and the furniture, carpets, &c., contained therein entirely ruined.

BUILDINGS GENERALLY.

General repairs and maintenance of the various public buildings throughout the territory were effected under the supervision of S. A. Bertrand, superintendent of public buildings, Yukon Territory.

PART IV

CHIEF ENGINEER'S REPORT

ON

HARBOUR AND RIVER WORKS

INCLUSIVE OF

GRAVING DOCKS AND DREDGING OPERATIONS

ALSO

ROADS, BRIDGES AND SURVEYS THROUGHOUT THE DOMINION.



REPORT OF THE CHIEF ENGINEER.

DEPARTMENT OF PUBLIC WORKS OF CANADA,
CHIEF ENGINEER'S OFFICE,

OTTAWA, October 7, 1907.

FRED. GÉLINAS, Esq.,

Secretary,

Department of Public Works.

SIR,—I have the honour to submit the annual report on the various works under my charge during the fiscal year ended March 31, 1907.

These works comprise the construction and repair of wharfs, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of government dredging plant; the construction and maintenance of graving docks; the construction, maintenance and working of slides and booms; the construction and maintenance of interprovincial bridges and approaches thereto, and of bridges on highways of federal importance in the Northwest Territories and the maintenance of military roads; also hydrographic and ordinary surveys and examinations, inclusive of precision levelling and geodetic measurements which are required for the preparation of plans, reports and estimates; the testing of cements, &c.

I have the honour to be, sir,

Your obedient servant,

EUG. D. LAFLEUR,

Chief Engineer.

PROVINCE OF NOVA SCOTIA.

AMAGUADEES.

Amaguadees Pond, Cape Breton county, is on the northern side of East bay, the eastern arm of Great Bras d'Or lake, about three miles from Benacadie point, at the entrance to and sixteen miles from the head of the bay.

It is a large sheet of water, about one mile in length and a quarter of a mile in width, with a considerable depth of water, separated from the bay by a beach of gravel, overlying clay, of from 100 to 200 feet in width, and about 4 feet high above the summer level of the lake. The outlet is at the eastern end of the beach, but as it was only open for short periods after freshets, and only available to small boats, the pond was not of any practical benefit to the inhabitants.

During 1902-3-4, the sum of \$3,980.52 was expended in the construction of a block and span wharf, extending to 11 feet at low lake level, 128 feet in length and 20 feet

7-8 EDWARD VII., A. 1908

wide, with an 'L,' 20 by 20 feet, on the eastern side of the outer end, and built on the outside of the beach at a point about 600 feet from its eastern end. The blocks are constructed with round timber, creosoted to high lake level.

After the construction of the wharf, the outlet of the pond, which formerly was only open at times, not only remained open, but it widened and deepened to such an extent, as to interfere with the traffic to and from the wharf.

The sum of \$500 was expended during 1905-6, towards the construction of a bridge across the outlet, 100 feet in length and 16 feet wide, and consisting of approaches, built of brush and stone, 30 and 22 feet in length with cribwork blocks at their outer ends 12 feet long, and of a span between them, 24 feet in length; and of the work described, the approaches and the blocks were constructed during the year.

During the fiscal year 1906-7, the sum of \$245.96 was expended in the completion of the bridge, commenced during 1905-6, by ballasting the cribwork blocks, and by laying the covering over the blocks and the span.

AMHERST POINT.

Amherst Point is a farming settlement of some 400 people, situated about three miles south of Amherst town.

In order that the farmers might be able to ship their produce in the fiscal year 1905-6, the department began the construction of a wharf at this place. During that year, about \$1,700 was expended, and during the last fiscal year an additional sum of \$3,784.93. This work was slightly more than two-thirds completed at the end of the last fiscal year. It consists of two portions: an approach and a cribwork wharf.

The approach is 600 feet long and 16 feet wide with an average height of 7 feet. It consists of round log cribwork, close-faced and filled in with mud, excavated from the marsh land.

The wharf is of round log, close-faced and stone filled cribwork, well fastened and fendered. It is 155 feet long with a common width of 20 feet on top, with the exception of the last 30 feet, which has a width of 40 feet on top. Its height at the outer end is 29 feet, and besides this we excavated the bottom surface to a depth of 5 feet, and built up the cribwork on the foundation of mattresses of brush and stone placed in this excavation. The brush and stone foundation is about 2½ feet in thickness, and extends the whole length and width of the work. Spring tides rise here 40 feet and neaps 33 feet.

In constructing this work, we met with two difficulties, first the increased cost and scarcity of labour, and second, difficulty in procuring stone for ballast. These two difficulties much enhanced the cost of the work, and these, with the increased cost of timber caused the estimate to be inadequate for the completion of the work.

ANDERSON'S COVE.

Anderson's Cove, Annapolis county, is a scarcely perceptible indentation in the coast line, on the south side of the Bay of Fundy, sixteen miles east of Digby Gut, two miles east of Litchfield, and two miles west of Parker's Cove. The settlement, which is called Hillsburn, comprises, within a radius of a mile, about 150 people dependent almost exclusively on the fisheries for a living.

In order to afford some small measure of protection and shelter for the boats, which were often broken or destroyed for lack of shelter, the department, in 1905-6, expended the sum of \$1,813.29 in constructing a small breakwater, 162 feet long, from 7 to 13 feet high and 26 feet wide.

In 1906-7, the sum of \$1,000 was expended in extending the breakwater by a substantial block of cribwork, 50 feet long, 26 feet wide, and from 12 to 15 feet high.

Spring tides rise about 30 feet.

SESSIONAL PAPER No. 19

ANNAPOLIS ROYAL.

Annapolis Royal, Annapolis county, is the oldest town in the province of Nova Scotia, having been founded in 1605. It is beautifully situated at the head of Annapolis basin, and on the left or south side of Annapolis river. It has a population of about 2,000 people, and is the centre of one of the most fertile districts in Nova Scotia.

On the water front of the town there has not been, for many years, a public wharf or landing. The Queen's wharf, so called, at the east end of the town, is supposed to have been first constructed during the French occupation in the 17th century. In or about 1868, it was repaired and extended, and made serviceable for the accommodation of the steamer which plied between Annapolis, Digby and St. John, N.B., before the construction of the railway from Annapolis to Yarmouth. Both the original construction and the extension were in cribwork.

The wharf being for a great many years a complete wreck, and, to a certain extent, a danger to navigation, the department, in 1905-6, expended the sum of \$3,885.75 in building a completely new structure on the site of the old one. At the close of the fiscal year, the work was about three-quarters finished.

In 1906-7, \$4,078.70 was expended on the work, which, at the close of the fiscal year, was not quite completed.

It consists of an approach of stone and earth, walled on each side, 250 feet long, 30 feet wide and of an average height of 8 feet. This approach is followed by a pile-work structure, 240 feet long by 30 feet, wide, with a T on the outer end, 90 feet long on the face by 40 feet wide. The piles in the T are creosoted. Along the face the work is about 36 feet high, with 32 feet of water at H.W.O.S.T. and about 7 feet at low water. On the north side of the stem, next to the T is a flight of steps for the accommodation of boats and small craft, and in the centre of the face of the work, a lifting slip, operated by a powerful double hand winch, for the convenience of steamers. The slip was not in position at the close of the fiscal year.

Spring tides rise 29 feet, neaps, 23 feet.

APPLE RIVER.

Apple River is a small hamlet of about 300 people, situated near the mouth of Chignecto bay, about thirty miles southwest of Amherst town. The people are mostly farmers and lumbermen, whilst some fishing is conducted by a few of them. The chief industry, however, is lumbering, from seven to ten millions feet of lumber being shipped annually from this port.

As it lies on a very exposed section of the shore, the department, during the last fiscal year, constructed a breakwater at this place, the contract price being \$7,300. This work was completed quite early in the fall of 1906, and is a substantial structure.

The breakwater consists of a rock bank approach, 27 feet in length, 20 feet wide on top and 8 feet high at the outer end; the wharf proper, which is constructed of continuous round log, stone filled cribwork, measures 254 feet in length, 16 feet in width on top and 36 feet in height at the outer end. The cribwork is built with a batter of 2 inches to the foot on the seaward side, and 1 inch to the foot on the inner side. The outside face and the outside end are sheathed with 7-inch face timbers, placed in an upright position and bolted to every alternate longitudinal face log crossed, the thickness of these timbers being 5 inches. Before building this cribwork, the bottom of the work or rather the foundation was excavated for the whole length and width of the work to a depth of 5 feet, and a 2-foot thick series of mattresses of stone and brush was laid in this excavation; upon these mattresses the work was laid.

Spring tides rise here 38 feet, and neaps 32 feet.

Expenditure during fiscal year of 1906-7, \$7,573.

7-8 EDWARD VII., A. 1908

ARISAIG.

Arisaig, Antigonish county, is on the southeastern shore of Northumberland strait, about fifteen miles southeast from Cape George.

The works at this place include a pier on the northern and a breakwater on the southern side of the cove.

The breakwater, constructed during 1887-8, was 380 feet in length, extending to 5 feet at low water, and 20 feet wide, with an 'L' on the southwestern side of the outer end, 40 feet long and 20 feet wide, and with the exception of 80 feet at the inner end, which is of stone, it is constructed of close-faced, native timber cribwork, fully ballasted, and the outer 50 feet and the 'L' were protected by close-sheathing.

From natural decay, the top of the breakwater became weakened, and the outer end with the 'L' has been destroyed by the teredo.

The sum of \$2,200 was appropriated for expenditure during 1905-6, to construct the top of the outer end of the approach, for a distance of 50 feet, and for the construction of a creosoted timber block, 20 by 30 feet, at the outer end of the breakwater; but, owing to the non-delivery of the creosoted timber required, the sum of \$1,263.52 only was expended, and that was for the construction of the outer 50 feet of the old top of the approach, and for procuring the native timber required for the top of the proposed outer block.

The sum of \$1,500 was voted for expenditure during 1906-7 to complete the outer block, but again, owing to the non-delivery of the creosoted timber required, the sum of \$499.23 only was expended for ballast.

AVONPORT.

Avonport, King's county, is a small farming village with a population of about 250, situated at the mouth of the Avon river (at this point nearly two miles wide) and on the Dominion and Atlantic railway, twelve miles northwest of Windsor, the county town of Hants, and thirteen miles east of Kentville, the county town of King's.

A small wharf, of ordinary round-log, stone-filled cribwork, was built before Confederation by the inhabitants, aided by the provincial government. It is 300 feet long, 22 feet wide to 25 feet wide on top, and 17 feet high at the outer end, which is dry, at L.W.O.S.T.

In 1886, the department having assumed control of the wharf some little time previously, spent \$1,200 in extensive general repairs. During the year 1896-7, the sum of \$500 was expended in rebuilding the top of the shoreward half of the work; the covering, floor stringers, and upper two or three logs in height were renewed.

In 1900-1, the sum of \$998.90 was expended in extensive renewals.

In 1906-7, the sum of \$599.77 was expended in rebuilding the approach to the public wharf, which had been partially destroyed by waves and ice. The work is 400 feet long, 18 feet wide and from 3 to 10 feet high, consisting of a brush and stone embankment with fenders and ties eight feet apart.

BABIN'S COVE.

Babin's Cove, Richmond county, is on the north side of Arichat harbour, Isle Madame, and nearly opposite its western entrance.

A wharf, intended for winter service, was constructed by the department, under contract, during 1893-4 and 1894-5, and connected with the public road by a road 410 feet in length. It is 100 feet in length, including a stone abutment, 20 by 20 feet on top, with sides and outer end sloping $1\frac{1}{2}$ to 1, an inner block, 20 by 20 feet, and an outer block 25 by 40 feet on top, with openings or spans of $17\frac{1}{2}$ feet between the blocks and between the inner block and the stone abutment. The blocks are of round native timber cribwork fully ballasted. The outer and end faces of the outer block are close-sheathed.

SESSIONAL PAPER No. 19

The depth at extreme low water, at the outer end of the wharf, is 11 feet. Spring tides rise 5 feet.

In 1903-4, the sum of \$99.34 was expended in constructing a small warehouse on the outer end of the wharf.

During the fiscal period of nine months ended March 31, 1907, the sum of \$140.66 was expended in removing fourfifths of the covering and about 80 lineal feet of the guard-rail of the wharf.

BADDECK.

Baddeck, the shiretown of the county of Victoria, is on the northern shore of the Little Bras d'Or lake, near the entrance into St. Patrick's channel.

On September 12, 1906, a plan and specification for the construction of a public wharf on the Campbell property were submitted for approval, and on March 2, 1907, a contract for its construction, in the sum of \$10,690, was entered into with Mr. Hugh MacDonald, but, up to the end of March, 1907, the work had not been commenced.

The work under contract is to be 284 feet in length, and will extend into 18 feet at low water; it will consist of a road approach, 64 feet in length; of a section of crib-work with creosoted timber substructure, 60 feet long and 48 feet wide; and of a creosoted timber pile extension, 160 feet long and 40 feet wide.

Expenditure during last fiscal year, \$222.23.

BAILEY'S BROOK.

Bailey's Brook, Pictou county, is a large stream emptying into the strait of Northumberland, at a point ten miles to the eastward of the entrance to Merigomish harbour, and six miles to the westward of Arisaig.

The channel protection works, undertaken in 1902-3, and completed in 1904-5, include a breakwater on the eastern side, 240 feet in length and 20 feet in width on top, extending to low water mark, and a shear-dam, on the western side, 130 feet in length and 12 feet in width, founded at low water.

In 1905-6, the sum of \$1,999.82 was expended in procuring materials for the proposed extension of the shear-dam, 164 feet in length, 16 feet in width to within 20 feet of the outer end, and 30 feet width over the outer 20 feet, and in constructing, placing and ballasting 120 feet of its substructure.

During the fiscal period of nine months ended March 31, 1907, the sum of \$1,982.35 was expended in completing the extension of the shear-dam in progress in 1905-6.

BARRINGTON PASSAGE.

This passage is a sheet of water separating Cape Sable island from the mainland, and vessels plying between Nova Scotia ports, east of Barrington, with Yarmouth, Boston and American ports on the Atlantic seaboard and able to use this passage, save twenty or thirty miles on their trip. There have been several ledges composed of large loose boulders lying across this passage, with the result that, at low tide, vessels have often struck and incurred much damage as well as annoying delays. Two years ago, the department began the work of removing these boulders, and during the last fiscal year this work was completed.

Last year we expended \$2,993.50, whilst in the two years preceding we expended within a few dollars of \$5,000 upon the same work. During last fiscal year, about 650 tons of stones were removed from this place, and after examination with the aid of divers no obstruction could be found in this channel.

This work was accomplished by the Provincial Wrecking Company's plant and was performed at a cost per ton of slightly more than \$4.55. When work was begun in this channel, one could only depend upon 9 feet of water, whilst now there is 13 at L.W.O.S.T.

7-8 EDWARD VII., A. 1908

BATTERY POINT.

Battery Point, Annapolis county, is a fishing settlement of about 150 people, situated on the east side of Digby Gut, about four miles northeast from the town of Digby, and fifteen miles southwest from the town of Annapolis.

In 1904-5, the sum of \$1,987.32 was expended in constructing a breakwater for the protection of the fishing fleet, comprising 40 to 50 boats. The work is 90 feet long, 26 feet wide, 8 feet high at the shore end and 19 feet high at the outer end. The approach is a stone embankment, 38 feet long, 26 feet wide and from 4 to 8 feet high.

At the end of the fiscal year the work was completed, with the exception of a few fenders.

In 1905-6, the sum of \$2,000 was expended in constructing an extension to the breakwater. The new block is 60 feet long, 26 feet to 30 feet wide and from 20 to 29 feet high, very strongly built of round-long cribwork, furnished with a break on the seaward side, close-sheathed on the seaward side and outer end and on the inner or southern side, and provided with a flight of steps for the accommodation of boats.

In 1906-7, the sum of \$668.40 was expended in completing the new block.

Spring tides rise 27 feet; neap, 23 feet.

BAXTER'S HARBOUR.

Baxter's Harbour, King's county, is a small harbour on the south side of Minas channel, Bay of Fundy, about midway between Scott's Bay and Hall's Harbour, about six miles from each. The settlement has a population of about 200 people, engaged in fishing and farming.

The harbour is merely a slight indentation on the coast line, with a small wharf or breakwater on one side and a reef of rocks on the other, leaving an opening about 180 feet in width between them, into which small schooners can enter at about two hours ebb and flood.

The little breakwater which was built many years ago by the inhabitants, aided by the provincial government, having become a complete wreck, the department, in 1905-6, expended the sum of \$2,258.69 in building a substantial breakwater of cribwork on the site of the ancient structure. The work, which was not completed at the end of the fiscal year, is 100 feet long, 26 feet wide and from 5 at the inner end to 20 feet high at the outer end, well fendered and filled with ballast.

In 1906-7, the sum of \$745.54 was expended in completing the work.

BAYFIELD BREAKWATER.

Bayfield, Antigonish county, is on the southern shore of St. George's bay, fifteen miles to the westward of the northern entrance to the Strait of Canso.

There are two works at this place: a wharf 442 feet in length, built in 1892-4, and breakwater (cribwork, core and stone embankment), 760 feet in length, commenced in 1879 and completed in 1888.

Repairs and improvements to the breakwater, including the construction of a concrete wall 525 feet in length over the inner face of the cribwork core, (150 to 675 feet from the inner end) and the reconstruction of the stone covering on each side of the wall, undertaken in 1903-4, was completed in 1904-5, with the exception of 300 feet of covering on the seaward side and of the grouting (with concrete) between the wall and high water on each side, over a distance of 365 feet (150 feet to 515 from the inner end). In 1905-6 the sum of \$1,600 (the amount appropriated) was expended in completing the repairs and improvements in 1903-4.

During the fiscal period of nine months ended March 31, 1907, \$1,799.73 was expended in extending the concrete wall 70 feet and in reconstructing and grouting, with concrete, the covering of the talus on the northern side of the concrete wall (150 to 675 feet from the inner end) which had been damaged after completion of repairs in 1905-6, and on the northern side of the extension.

SESSIONAL PAPER No. 19

BEAR COVE.

Bear Cove, Digby county, is a slight indentation, not more than 400 feet deep, in the coast of the mouth of St. Marys bay, Bay of Fundy. It is situated twenty-three miles north of Yarmouth, and equi-distant from Cape Cove on the south and Meteghan on the north, being about five miles from each. The population of the settlement, within a mile of the cove, comprises a couple of hundred of people, chiefly dependent for a living on fishing, though some little farming is carried on. The fishing fleet comprises about twenty-five small boats, the annual value of the catch, embracing cod, herring, lobsters, &c., is from \$7,000 to \$10,000.

In order to afford some small measure of protection for the fishing fleet, the department, on October 10, 1905, awarded a contract, for the construction of a break-water, in the sum of \$5,748.92.

The work was begun in May, 1906, and at the close of the fiscal year 1905-6, it was about half completed. The work was satisfactorily completed at the end of September, 1906.

Spring tides rise 21 feet; neaps, 17 feet.

The total expenditure during 1906-7, amounted to \$3,883.92.

BEAR RIVER.

Bear River, Annapolis county, situated at the head of navigation, five miles above the two bridges, highway and railway, which are near the mouth of the river, is an important and prosperous settlement, partly in Annapolis and partly in Digby counties, the river forming the boundary between the two counties. Large quantities of piles, cordwood and lumber are annually shipped to South America, the West Indies and the United States.

In 1901-2, the sum of \$3,000 was expended in removing the upper portion of an old pier of the highway bridge, which was rebuilt by the provincial government about twelve years ago, on a site about 100 feet farther up stream. This old pier bottom, which was removed to a depth of 5 feet below low water spring tides, was so close to the channel that it was a source of danger to vessels passing up and down. The dropping pier on the down stream side of the swing span of the highway bridge, was also rebuilt in substantial pilework, the new pier being 180 feet long, 25 feet wide and from 20 to 30 feet high, strongly built of pile bents, well braced, fendered and bolted, provided with mooring posts and rings, and with three rows of hardwood walings on the river face. Of the total expenditure of \$3,000, the sum of \$249.17 was expended in the purchase of piles and timber for the rebuilding of the drop-pier on the upper side of the highway bridge.

In 1902-3, the sum of \$1,611.35 was expended in rebuilding the dropping pier of the upstream side of the Victoria highway bridge.

In 1905-6, the sum of \$584.86 was expended in the purchase of materials for the purpose of rebuilding in cribwork the upper end of the dropping pier, which was severely injured by the heavy ice of the exceptionally severe winter of 1904-5.

In 1906-7, the sum of \$338.35 was expended in beginning the construction of the new block.

BEAVER RIVER.

Beaver River, Yarmouth county, is a prosperous fishing and farming village of some 400 people, situated on the coast of St. Mary's bay, thirteen miles north of Yarmouth, and on the county line between Digby and Yarmouth. The little stream which issues here discharges through a gravel beach, which formerly, when the stream was low, obstructed its mouth and finally closed it altogether, so that the water has to find exit by soakage through the gravel.

7-8 EDWARD VII., A. 1908

In 1886-7, operations were begun by the department to improve the river mouth and remedy this defect. A passage was cut through the gravel and sea wall, and a short breakwater was built on the south side of the mouth to catch the gravel and prevent the bank reforming; besides protecting the river mouth, the breakwater forms a good though short landing pier for vessels during the summer months. This work proving satisfactory, the sum of \$1,500 was expended by the department in 1888-9, in further improvement. This consisted of extending the breakwater 100 feet, sheet-piling its northern face, and extending the short pier on the northern side of the mouth.

In 1891-2, the rush of water during the freshets, having begun to undermine the work, the sum of \$450 was expended in close-piling a portion of the river face, and in levelling up and repairing the top, which was leaning over the stream. In 1899-1900, the sum of \$732.35 was expended in rebuilding the whole top of the work for a height of from 3 to 5 feet. In 1900-1, an expenditure of \$1,080.04 was made in extending the breakwater by the addition of a new block, 30 feet long, 25 feet wide and an average height of 19 feet. The older portion of the work was also repaired.

In 1901-2, the sum of \$2,097.46 was expended in further improvements and repairs. The work done consists of :

(a) A new block on the outer end of the south breakwater, 50 feet long, 25 feet wide and from 16 to 17 feet high, founded on 24 piles driven to hard bottom and cut off a foot below the level of the beach. The block is built of round-log cribwork, well fendered, ballasted and covered with 3-inch plank.

(b) A new block on the outer end of the north breakwater, 22 feet long, 15 feet wide and 14 feet high, substantially built of the usual type of round-log cribwork.

(c) Minor repair, chiefly under-pinning the shore end of the northern breakwater, where it had been slightly undermined by unusual freshets, in the brook issuing alongside the work.

In 1906-7, the sum of \$99.49 was expended in under-pinning with stone and timber, the north or landward face of the breakwater, in order to keep it from falling into the stream and schooner berth alongside.

BLUE ROCK.

Blue Rock, Antigonish county, is situated on the southern coast of St. George's bay, about two and a half miles to the eastward of the entrance into Tracadie harbour, and six miles to the westward of the northern entrance into the Strait of Canso.

A breakwater extending 316 feet in a southwesterly direction from Blue Cape, for the protection of a boat landing and to afford shelter for fishing boats, was commenced by the department in 1886 and completed in 1889. It is from 16½ to 17 feet in width on top, with a face on the seaward side sloping 1 to 1 from the top of the work to 1 foot above high water. The depth at the outer end, at extreme low water, is 12 feet, and over the area sheltered from the north and east from 11 to 5 feet. Spring tides rise 4 feet.

Repairs and improvements were made in 1893-4-5 and in 1899-1900-1, including close-fendering the outer end and the sloping face; reconstructing the top work over a distance of 60 feet from the outer end inwards; and placing a stone talus on the seaward side, at the outer end, and on the inner side for a distance of 40 feet from the outer end inwards.

During the fiscal period of nine months ended March 31, 1907, the sum of \$497.61 was expended in renewing the top work of the breakwater over 80 feet, from 60 feet from the inner end outwards, and in placing stone in the talus on the seaward side.

BOISDALE.

Boisdale, Cape Breton county, is on the southeast side of St. Andrew's channel, an arm of the Little Bras d'Or lake, about fifteen miles northeast of Grand Narrows.

SESSIONAL PAPER No. 19

A contract was entered into in March, 1906, for the construction of a block and span wharf, with creosoted substructure, extending to 11 feet at low, or to 12½ feet at high lake level, for the sum of \$4,995.

During the fiscal year of nine months ended March 31, 1907, all the native timber and stone and part of the creosoted timber required, were delivered, the cribwork abutment was completed, and the substructure of the first block was placed and ballasted. Expenditure during fiscal year of 1906-7, \$995-41.

BRETON COVE.

Breton Cove, Victoria county, is situated on the northeastern shore of the island of Cape Breton, about midway between St. Ann's harbour and Ingonish bay.

On July 18, 1904, a contract was entered into in the sum of \$5,885, for the construction of a wharf to serve the purposes of a boat landing, and to afford shelter for fishing boats; the work was completed on July 22, 1905.

The wharf is a continuous cribwork with creosoted timber substructure, extending to 4 feet at low water, 194 feet in length and 16 feet wide, with an 'L' on the western side of the outer end, 24 by 20 feet, and an incline landing, built on creosoted timber piles, 4 feet wide and 46 feet long, on the inner face, inside of the 'L'.

The wharf is about half a mile from the public highway, and is reached by a right of way to the beach, which has been open to the public for years. This right of way crosses two properties. During 1905-6, the department fenced in the right of way on the property near the wharf, and during 1906-7, the sum of \$80 was expended in fencing in the balance of the right of way, about 1,440 feet in length.

BRIDGEWATER.

Bridgewater (La Have river), Lunenburg county, is the centre and headquarters of a large and important business in the manufacture and export of lumber. It is a thriving town of 2,000 to 2,500 people, situated twelve miles from the mouth of the La Have river. It is 100 miles southwest from Halifax by the coast, and fourteen miles due west from the town of Lunenburg. It is the headquarters of the Halifax and Southwestern Railway.

During the year 1905-6 the sum of \$1,568.52 was expended by the department in removing, by means of submarine divers, a large number of boulders and snags from the bed of the river, which had been for many years a serious menace to the shipping of the place.

In 1906-7, the sum of \$3,063.38 was expended in continuing the work. Spring tides rise 6 feet; neaps, 5 feet.

BROAD COVE MARSH.

Broad Cove Marsh, Inverness county, is on the Gulf of St. Lawrence, twelve miles south from Margaree harbour.

The wharf at this place, on its completion in 1888, extended 400 feet to 12 feet 10 inches at extreme low water. It was badly damaged in January, 1894, and subsequently carried away to within 207 feet of the inner end. In 1894-5-6, the inner 207 feet was repaired and strengthened, and in 1897-8, a small amount was expended in repairs.

When repairs were undertaken in 1904-5, only 100 feet of the work remained; during that year, the sum of \$999.85 was expended in extending it, 25 feet to 2 feet at extreme low water. In 1905-6, the sum of \$3,699.99 was expended in completing a further extension, 98 feet in length, with the exception of close fendering between fenders, on the seaward side, 18 to 55 feet from the outer end, at the outer end and on the inner side, 27 to 56 feet from the outer end.

7-8 EDWARD VII., A. 1908

The depth, at extreme low water, at the outer end of the 98 foot extension, is 7 feet. Spring tides rise $4\frac{1}{2}$ feet.

During the fiscal year ended March 31, 1907, the sum of \$350.88 was expended in completing the close-fendering of the 98 foot extension.

CANADA CREEK.

Canada Creek, King's county, also called Black Rock, is a fishing and farming village of about 150 people on the south shore of the Bay of Fundy, sixty miles east of Digby Gut and eight miles west of Halls Harbour. The harbour is formed by two piers or breakwaters, built one on either side of a small stream. That on the east side which is detached from the shore serves merely as a breakwater and was built by the department in 1878-9, at a cost of \$3,000. It is 150 feet long, 25 feet wide on top, and from 12 to 15 feet high, substantially built of round-log cribwork, close faced, well ballasted and fendered. The breakwater on the western side, originally 248 feet long, which serves both as a breakwater and a landing pier, was built before Confederation at the joint expense of the inhabitants and the provincial government. It is built of round-log cribwork, the seaward side being protected by close sheathing of flatted spars. In 1874, it was extensively repaired at a cost of \$2,500. In 1884, further repairs were made, and a new block 57 feet long, by 10 wide, was built on the seawardside of the shore end. In the winter of 1889-90, the outer 100 feet in length was completely wrecked, and other minor damage caused by severe gales. The shortening of the structure caused the gravel to wash around its end and fill up the berth for vessels in the bed of the stream along the eastern side. In 1892-3, the department built a new block of cribwork on the outer end of the old work, 50 feet long, 14 feet wide on top and from 8 to 11 feet high between the outer end of the existing work and the remains of the old. The block was totally destroyed in November, 1899. In 1900-1, an expenditure of \$1,928.09 was made in repairing the work and in building a new block, 34 feet long, 30 feet wide, and, at the outer end, 28 feet in extreme height.

In 1901-2, the sum of \$1,205.18 was expended in completing the new block, in extending the main breakwater, begun the previous year, and in taking down and rebuilding a length of 60 feet of the retaining wall on the east side of the mouth of the creek, this piece of work being of an average height of 10 feet and width of about 12 feet.

In 1902-3, the sum of \$499.96 was expended in thorough repairs to the outer end of the eastern breakwater, which was in a dilapidated condition and endangering the whole structure.

Total expenditure to June 30, 1903, including refund of \$550 to the provincial government was \$13,519.02.

In 1906-7, the sum of \$750 was expended in repairs, consisting of a piece or patch of new cribwork to fill a breach in the seaward face of the breakwater, 33 feet long, 20 to 25 feet wide and 10 feet high.

This work was transferred to the control of the Department of Marine and Fisheries on June 12, 1888.

CANNING.

Canning, King's county, is a prosperous village of about 1,500 people, mostly engaged in farming and fruit-raising, situated on the north or left bank of the Habitant river, which, about two and a half miles below, debouches into the Basin of Minas. It is an important station on the Kingsport branch of the Dominion Atlantic railway, which connects with the main line at Kentville, eleven miles to the south.

In 1904-5, the sum of \$14,137.08 was expended in the construction of the wharf. It consists of a piece of cribwork 260 feet long, with an ell or return 90 feet long, 22 feet high and 22 feet wide on top. The back batters 3 inches to the foot and the front 1 inch to the foot. The whole block is founded on piles, driven to rock and cut off

SESSIONAL PAPER No. 19

level with the mud. The cribwork at the end of June was 17 feet high or within 5 feet of the full height.

The excavation of the berth in front, and the filling up behind were not completed at the end of the fiscal year.

In 1906-7, the sum of \$8,640.59 was expended in continuing the work, which, at the close of the fiscal year, was nearly completed.

Spring tides rise over 40 feet.

CHARLO'S COVE.

Charlo's Cove, Guysborough county, marked on the charts 'Charlo's Harbour,' is on the northern shore of Tor bay, a bay on the Atlantic coast of Nova Scotia to the westward of Whitehaven.

On October 27, a contract was entered into for the construction of a breakwater on the northern side of the entrance to the cove, for the sum of \$12,875.

The contract is for a breakwater 16 feet in width on top, extending 484 feet to 4½ feet at extreme low water, of round native timber cribwork, fully ballasted and protected on the seaward side by close-fendering and by a talus of heavy quarried stone or boulders, sloping 3 to 1 from extreme high water. Spring tides rise 6½ feet.

Up to March 31, 1907, no action had been taken other than in the way of arranging for the delivery of materials.

Expenditure during fiscal year 1906-7, \$251.79.

CHETICAMP HARBOUR.

Cheticamp harbour, Inverness county, is on the west coast of Cape Breton island, fourteen miles to the northward of Margaree harbour.

The harbour is formed by Cheticamp island, and a beach of sand and shingle between its southern extremity and the mainland; and is entered, from the north, by a channel dredged through a bar over which there was originally about 4½ feet at extreme low water.

Of the \$1,000 appropriated for expenditure in 1905-6, towards the construction of a work to prevent the movement inwards, of a beach on the mainland opposite the inner end of the dredged channel, and the consequent shoaling of part of the harbour and wharf property, the sum of \$984.25 was expended in constructing 254 feet of brush and stonework, averaging 22 feet in width and 7 feet in height and containing about 1,400 cubic yards.

Of the amount appropriated for the fiscal year ended March 31, 1907, the sum of \$5,052.33 was expended in constructing 3,600 cubic yards of brush and stonework, including an extension 370 feet in length; two 'spurs,' and in procuring materials for cribwork blocks at the outer ends of proposed extensions of the 'spurs.'

CHURCH POINT.

Church Point, Digby county, is situated on the southeast side of St. Mary's bay, six miles southwest from Weymouth. It has a population of 200 people, engaged in farming and fishing.

The work consists of a wharf, a retaining wall and a breakwater, appears to have been built between the years 1855 and 1856, at the joint expense of the inhabitants and the provincial government, the expenditure of the government having been \$61,055.66. In 1875-6, the department expended the sum of \$2,000, the inhabitants contributing an equal amount, in repairing the northern and in rebuilding an ell 72 feet long by 20 feet wide, at right angles to it, with the object of preventing gravel from working around the outer end. The movement of the gravel, which is from south to north, has always been more or less a difficulty and a detriment to the port.

7-8 EDWARD VII., A. 1908

In 1890-1, the gravel having worked around the outer end of the breakwater and formed a bar across the entrance to the loading berth, a small groyne, 40 feet long and 24 feet wide was built, projecting at right angles from the outer or northwest corner of the breakwater. The groyne was extended in 1894-5 a further distance of 30 feet, and in 1896-7 by a length of 120 feet and a width of 16 to 25 feet, by a height of 10 to 20 feet, all of round-log cribwork. The sluice gates, at the head of the dock, where the fresh water makes its exit, were rebuilt in order to cause the stream to scour away the gravel from alongside the wharf front.

In 1900-1, the sum of \$800 was expended in rebuilding 63 feet in length of the wharf front, 16 feet high, from 10 to 20 feet wide, 35 feet of this length being close-piled.

The sluice way was entirely rebuilt and fitted with double lifting gates instead of single; the floor of the sluice was lowered 5 feet, and an apron extending 13 feet up stream and 50 feet down stream, was constructed of 3-inch plank, well spiked to heavy stringers, bedded in close-packed stone and close-piled at both ends to prevent scour.

In 1902-3, the sum of \$1,800 was expended in rebuilding 134 feet in length of the wharf wall.

In 1903-4, the sum of \$2,995.21 was expended in further reconstruction of the wharf wall begun in 1902-3.

In 1904-5, the sum of \$2,100 was expended in taking down and rebuilding a piece of the wharf wall, 100 feet long, 10 to 22 feet high, and from 10 to 18 feet wide, in the continuation and completion of the work done the previous two seasons.

In 1905-6, the sum of \$1,200 was expended in extending westwardly the groyne which prevents the gravel from entering the schooner berth. The new block is 62 feet long, 25½ feet wide and 8 feet high, or within 15 feet of the height of the rest of the work.

In 1906-7, the sum of \$1,793.12 was expended in constructing two new blocks of cribwork, the first 60 feet long and 25 feet wide and 10 feet high, to raise the groyne on the west side; the second, 90 feet long, 13 feet wide, 11 feet high, being a reinforcing block on the north side of the main north wall, which was canting over under pressure of the accumulated gravel behind it.

COUNTRY HARBOUR.

Country Harbour, Guysborough county, is on the Atlantic coast of Nova Scotia, thirty-six miles to the westward of Cape Canso. It has an excellent land locked anchorage, in 4½ to 7 fathoms, 4 miles inland and is navigable for large vessels, 6½, and for small vessels to Narrows Point, 8½ miles inland. Boats can ascend the river to the head of tide, two mile above Narrows Point.

A small amount (\$140.66) was expended in June, 1905, in procuring materials and plant and in making preparations for carrying on the work of removing obstructions.

In 1905-6, the sum of \$2,199.97 was expended in excavating a channel through a reef at 'Hell Gate,' and in removing most of the boulders obstructing the channel below that point.

During the fiscal year ended March 31, the sum of \$699.99 was expended in completing the removal of boulders below, and in removing obstructions (sunken logs) in the channel above 'Hell Gate.'

COW BAY (PORT MORIEN).

Cow Bay, (Port Morien), Cape Breton county, is on the eastern coast of Cape Breton island, about twelve miles to the eastward of the entrance to Sydney harbour.

A breakwater built by the owners of the Gowrie coal mine, on the north side of the bay, came under the charge of the department in 1873. It originally extended 1,374 feet to 17 feet at low water, or to 23 feet at high water, and was about 44 feet in width. The area of the basin inclosed between it and the shipping pier of the Gowrie

SESSIONAL PAPER No. 19

mine, now the property of the Dominion Coal Co., was 17 acres, 10 acres of which had a depth of from 9 to 17 feet at low water.

The breakwater was seriously damaged during the great gale of August 24, 1873. Extensive repairs and improvements were made nearly every year up to 1895 when it consisted of 220 feet of old work protected on the seaward side by a beach of shingle and boulders; 360 feet of old work, 44 feet in width with a new inner face-work, and a break on the seaward side built over the remains of the old work; and 793 feet of inner work with counterforts and connecting outer face-works. The inner and outer face-works were from 30 to 20 feet apart; they were connected by tie walls and the spaces were filled with earth and stone.

In 1895 and 1896, 253 feet of the breakwater, (1,121 feet from the shore end outward) was destroyed; the outer face-works from 1,121 feet from the shore end inward, were badly damaged and ballast was carried over the work and deposited in the dock along the inner face from 557 feet to 1,121 feet from the shore end.

Large expenditures have been made every year since 1897 in repairing and strengthening the breakwater from 1,121 feet from the shore end inward. The outer works have been reconstructed and strengthened by filling the face-chambers with concrete and by close-piling, and the stringers and covering of the inner work from 557 feet to 1,121 feet from the shore end have been renewed.

In 1905-6, the sum of \$16,956.84 was expended in repairing and strengthening the outer face-works.

During the fiscal year ended March 31, 1907, the sum of \$8,447.57 was expended in completing the reconstruction of 350 feet of inner face-work, in progress in 1905-6; in general repairs, including concreting and close-piling the outer face-work; in renewing the close-piling of 300 feet of inner face-work, from 557 feet from the inner end outwards; and in placing large concrete blocks against the outer face, two averaging 14 feet by 10 feet by 10 feet deep, at the junction of the southern face of the inner counterfort, and 3 averaging 13 feet by 5 feet by 8 feet deep, 400 to 439 from the inner end.

CRIBBIN'S POINT.

Cribbin's Point, Antigonish county, is on the west side of St. George's Bay, eight miles to the southward of Cape George, and 5 miles to the northward of the entrance to Antigonish harbour.

The wharf, completed in 1892-3, extended 300 feet in a southerly direction from the point, and has an approach, 195 feet in length. It is 20 feet in width for a distance of 120 feet from the inner end, and 30 feet for the remaining 180 feet; the inner 50 feet of the work is built of stone, and the outer 250 feet, of close-faced native timber cribwork, fully ballasted.

The face-timbers having become weakened by the ravages of the teredo, during 1896-7-8-9, the outer end, the seaward face for a distance of 20 feet, and the inside face for a distance of 10 feet, from the outer end, were close-piled with creosoted timber; a talus of quarried stone was placed along the seaward face; the work was reballasted where necessary, and a 'timber-break,' 100 feet in length and 2½ feet in height, above the cap-timber, was placed on the seaward side of the inner end of the wharf, to prevent the sand outside from being washed on to the work, during storms.

During 1899-1900, the sum of \$1,000 was expended in obtaining a portion of the creosoted timber required in the construction of a proposed extension of the wharf.

During the year 1900-1, the sum of \$3,079.95 was expended in procuring the balance of the timber required for the extension, and in repairing the outer end of the old work, which was almost destroyed during the severe gales in the autumn of 1900.

As the sand at the end of the wharf, at which there were originally 11 feet of water, at low water, had made up to a height of about 6 feet, since its completion, leaving but 5 feet of water, at low water, and as it was necessary to found the exten-

7-8 EDWARD VII., A. 1908

sion on the original bottom, the dredge *George Mackenzie* was engaged from May 30 to July 12, 1901, in dredging out the foundation for the new work, and the approaches thereto, at a cost of \$1,604.44.

During the year 1901-2, the sum of \$2,596.31 was expended in the construction of the extension to the wharf, for which the materials were procured during 1899-1900-1. The new block is 48 feet long and 20 feet wide, and it has been placed across the end of the wharf, forming an 'L,' 18 feet in length, intended to retain the stone in the talus. The block is of an average height of 20 feet, and is constructed of round timber cribwork, laid open-faced, with creosoted timber in the substructure, close-sheathed on all outer faces, and filled in solidly with ballast.

During the year 1904-5, the sum of \$2,127.41 was expended in close-sheathing the whole of the inner face of the old work, &c.

During 1906-7, the sheathing on the seaward face of the old work was renewed; floor-stringers, covering and cap were renewed where necessary, and the work was re-ballasted in places, at a cost of \$941.21.

DELAP'S COVE.

Delap's Cove, Annapolis county, is situated on the south shore of the Bay of Fundy, twelve miles to the eastward of Digby Gut.

The breakwater is constructed immediately to the eastward of the mouth of a small pond, which affords safe shelter for fishing boats, and a convenient place for keeping small vessels during the stormy winter months. The breakwater itself affords a good landing place for coasters and small schooners, the pier breaking off all eastern storms, and the formation of the shore on the opposite side of the stream forming a natural breakwater.

This breakwater was built by the department in 1878-9. It is 150 feet long, 25 feet 3 inches wide, and is constructed of round timber, with square timber faces, its easterly side being sheathed with 8-inch timber. It is provided with a break 4 feet 6 inches high, along its seaward or easterly side, and its covering is of 6-inch plank.

In 1899-1900, the sum of \$1,000 was expended in protecting the entrance to the face, and depositing large stones along it, to prevent the gravel from washing away.

In 1889-1900, the sum of \$1,000 was expended in protecting the entrance to the pond and in placing an anchor and buoy off the outer end of the pier to enable vessels to warp out and proceed to sea, avoiding the danger of going ashore on the western headland, to which they were formerly exposed.

The opening into the pond was protected by extending the western face of the pier 100 feet inwards along the margin of the stream, or to where this latter opens into the pond, and in raising the break on the seaward side of the pier, to prevent stone and gravel from being thrown over the sea wall. The wharfing along the stream is of an average height of about 16 feet, and 12 feet wide; the entrance to the pond is now clear and unobstructed.

The warping anchor is a large rock placed in position and fitted with chains and tackles. During the summer months it has a spar buoy attached, which is removed in winter to avoid the danger of drifting ice. During the year 1901-2, the sum of \$400 was expended in repairs to the breakwater. The work done consists of the renewal of the greater part of the covering, 200 feet of new stringers, 9 new mooring posts, 13 fenders, 118 feet of guard timbers, 200 tons ballast, besides petty and miscellaneous repairs to the break and the outer end of the work.

In the fiscal year 1905-6, the sum of \$1,127.12 was expended in building an extension to the breakwater, 33 feet long, 25 to 28 feet wide and 21 feet high. At the close of the fiscal year, the work was not quite completed, owing to the delay in procuring labour and materials.

In 1906-7, the sum of \$829.15 was expended in building the new extension and in miscellaneous and general repairs to the breakwater.

Spring tide rises 30 feet.

SESSIONAL PAPER No. 19

DIGBY.

Digby, Digby county, is the shire town of the county with a population of about 1,500, beautifully situated on the southwestern end of Annapolis basin. It is an important station on the Dominion and Atlantic Railway, 67 miles north of Yarmouth, 150 miles from Halifax, 20 miles from Annapolis. It is also the port of call for the daily steamer of the Dominion Atlantic Railway plying between Digby and St. John. The harbour is open at all seasons and well protected from nearly all quarters; storms, however, from the north and northeast drive a heavy sea against the pier, and if, at such times, there be much drift ice in the basin, the structure is likely to suffer damage.

The first pier was built by the government of Nova Scotia some years before Confederation, and was nearly destroyed by the gale which swept the Bay of Fundy in 1866-7. In 1869, to aid in rebuilding the work, the sum of \$2,920 was granted by Parliament and transferred, to be expended by the provincial government. The work, as then built, was of pile-bents, 12 feet apart for 550 feet; next a block of cribwork 80 feet long, 45 feet wide, the southern half of which sloped so as to form an incline, rendered necessary by the great rise and fall of the tide (24 feet at springs). The incline was finished by a block 170 feet long by 22 feet wide, the northern half of this portion of the pier being all pile-bents, 8 feet apart. The outer end of the pier consisted of a block, 56 feet long, 45 feet wide, and about 40 feet high. The whole of the northern face was close-piled, the total length of the structure being 870 feet.

In 1872, the sum of \$1,650 was expended by the department in completing and repairing the pier.

Works of improvement and repair were executed in 1874, 1882, 1885, 1887, 1888 and 1891.

In 1890, a contract was entered into for the construction of a landing pier on a new site, namely, on the north side of the 'Racquet,' about a mile to the northward of the present pier, and the town of Digby. For this purpose a quantity of timber and iron had been secured by the contractor. Owing, however, to numerous delays and the death of the contractor, the intention of building this pier was abandoned, and it was decided instead to repair and reconstruct the present pier, utilizing as much as possible the timber and iron belonging to the estate of the deceased contractor. The work of reconstruction was carried out by day labour at a cost of \$15,248.15.

In April, 1894, a length of 330 feet of close-piling along the north end of the pier, together with the caps and walings for the same distance, and about 90 of the outside bearing and fender piles were destroyed by a violent gale. In order to save the rest of the structure from the scouring action of the under-tow set up by the sheet piling, the rest of it was immediately cut out, and the sheet piling and other timber, that had been knocked adrift, was saved and piled on the inner wharf. Subsequently, in May and June, 1894, the sum of \$1,410.03 was expended in making good the damage done by the April storm. The sheet piling, however, having proved a mistake, was not replaced. About 90 new heavy piles were driven and thoroughly braced and bolted.

Further repairs and improvements were made in 1896-7-9, 1901-2-4-5 and 1906.

In 1906-7, the sum of \$1,363.11 was expended in renewing a considerable quantity of the 6-inch flooring of the pier and in other miscellaneous repairs.

The work was transferred to the control of the Department of Marine and Fisheries on June 12, 1888.

Spring tides rise 24 feet; neaps, about 20 feet.

DRUM HEAD.

Drum Head, Guysborough county, is on the south or Atlantic coast of Nova Scotia, about two miles to the eastward of the entrance to Isaac's Harbour.

A breakwater, commenced in 1902-3 and completed in 1903-4, extended 330 feet, in from $1\frac{1}{2}$ to 2 feet at extreme low water. It is of cribwork fully ballasted and pro-

7-8 EDWARD VII., A. 1908

ected on the seaward side by close-fendering and by a stone talus sloping 3 to 1 from high water.

The appropriation for 1905-6 was for extending the breakwater to 10 feet at low water, to afford additional shelter for fishing boats and a landing place for coastal steamers. A contract was entered into in April, 1906, for the construction of an extension, 149 feet in length and varying in width from 16 feet at the inner end to 20 feet at the outer end, with an 'L' at the outer end, 30 by 20 feet, forming a 'head', 50 feet in length, of cribwork fully ballasted, close-fendered on the seaward side and at the outer end, and protected on the seaward side to within 60 feet of the outer end. Up to the end of the fiscal year, work of construction had not been commenced.

During the fiscal year ended March 31, 1907, the work under contract was completed and the sum of \$316.60 was expended in constructing a small warehouse, at the inner end of the breakwater.

Total expenditure during 1906-7, \$5,896.60.

ESKASONI.

Eskasoni, Cape Breton county, is situated on the northern side of East bay, the eastern arm of Great Bras d'Or lake, about seven miles from Benacadie Point, at the entrance to and nine miles from the head of the bay.

The harbour, formed by outlying islands and connecting beach, is large, has a good depth of water, and is perfectly safe.

On March 8, 1906, a contract was entered into, in the sum of \$2,875 for the construction of a wharf off Brown's shore. The work under contract will extend to 12 feet at low water, and be 168 feet in length and 20 feet wide, with an 'L' at the outer end, 20 by 20 feet; with the exception of a short cribwork abutment, it will be constructed on creosoted timber piles.

Owing to the non-delivery of the creosoted timber required, the work had not been commenced by the end of March, 1907, but the necessary native timber required had been delivered.

FORT LAWRENCE.

This is now known as Amherst Harbour and is situated about $2\frac{1}{2}$ miles from Amherst town, at the head of Chignecto bay, near the mouth of the La Planche river. The town of Amherst is probably the most important, prosperous and thriving industrial town in Nova Scotia, and, as it is a manufacturing centre of some magnitude, it can readily be seen that efficient water transportation is essential to its future growth. Four years ago, the department constructed a large pile wharf at this place, but not over two years had elapsed from the date of its completion before the Inter-colonial Railway built a siding to it.

The wharf consists of a stem, 249 feet in length and 36 feet wide on top. The stem runs from the dyke to the edge of the channel of the river, at which latter place it is 44 feet in height; the wharf proper then begins at the outer end of this stem and runs seaward following the inner edge of the channel and has a height on the seaward side of 44 feet and on the inner side of 28 feet. It is constructed of pile trestle bents, separate from each other 8 feet between centres of piles, whilst the piles in the bents are separate from each other 7 feet between centres. These are braced not only with cross bracing, but with braced piles carefully driven and fastened to the heads of the outside bearing piles. The whole work is fendered with double fenders of a large size. There are also two strips of longitudinal walings. All the top timbers are 12 by 12 inches, with the exception of the covering which consists of timber 5 inches in thickness, fastened to the floor stringers by bolts of $\frac{3}{4}$ -inch iron, 14 inches long.

In order to improve the docking facilities, the sum of \$3,000 was granted, of which amount we expended \$2,935.11. The ice, which is very heavy at this place had torn away a large number of braces, and had broken about 20 piles, which we had to re-

SESSIONAL PAPER No. 19

place, besides that, we constructed two beds for vessels to lie in, and widened the inside corner of the wharf so as to afford accommodation for two railway tracks and hoisting apparatus.

Spring tides rise from 40 to 41 feet and neaps from 33 to 34 feet.

FRUDE'S POINT.

Frude's Point is situated about three and a half miles northeast of Lockport town. Four years ago, a small wharf of block and span was constructed by the department; two years ago, the Halifax and Southwestern Railway Company decided to bring their line near the wharf and locate what is now known as Lockport station within 250 yards of it.

As the people of Lockport and its business interests could best be served from this locality, they asked for an enlargement of this wharf. The former wharf was thereupon doubled in width and extended an additional 200 feet, at a cost of \$6,500, of which \$1,503.66 was expended during the last fiscal year.

The wharf is 40 feet wide and has from 16 to 21 feet of water along the outside 265 feet. It has one railway track now on it, and it is proposed to lay two more tracks in the fall of 1907.

There yet remains about 65 feet of this work to be constructed and about 125 feet in length of the rest of the extension is about one-half completed. We have at the site of the work nearly sufficient material to complete this work.

Spring tides rise here $6\frac{1}{2}$ feet, and neaps 5 feet.

GABARUS HARBOUR.

Gabarus harbour, Cape Breton county, on the eastern side and near the head of Gabarus bay, is of limited area, but of great value to the fishermen.

Expenditures were made in 1873-4 and in 1880-1, in deepening the entrance, through rock to about 1 foot at extreme low water.

In 1904-5, the sum of \$1,584.91 was expended in opening a new channel through rock, clay and boulders, 25 feet in width and from 2 to $3\frac{1}{2}$ feet in depth at low water, to the westward of the former entrance, with the intention of obtaining ultimately a uniform depth of $3\frac{1}{2}$ feet and a width, at the bottom, of 30 feet.

In 1905-6, \$2,489.05 of the appropriation and \$471.72 out of the general appropriation, or in all \$2,960.77 was expended, \$694.25 in completing the new channel and \$2,666.52 in the construction of part of a proposed brush and stone retaining wall, within the harbour, to prevent shoaling by sand carried across an extensive beach forming its eastern side. The work performed included opening a trench 342 feet in length, 15 feet width at bottom and 5 feet in average height (extreme low water to extreme high water level), and constructing in it a work of brush and stone 12 feet wide on top and $6\frac{1}{2}$ feet in average height (extreme low water to $1\frac{1}{2}$ feet above extreme high water).

During the fiscal year ended March 31, 1907, the sum of \$566.56 was expended in extending the brush and stone work 78 feet, and in raising it to an average height of $3\frac{1}{2}$ feet above extreme high water.

GEORGEVILLE.

Georgeville, Antigonish county, is on the southern shore of Northumberland strait, six and a half miles southwest from Cape George.

In 1892-3 a wharf, 207 feet in length and 20 feet wide, with an 'L' 20 by 20 feet, on the western side of the outer end, was constructed, to afford the inhabitants shipping and landing facilities. During 1896-7-8, an extension 44 feet in length, 40 feet wide, with an 'L,' 20 by 24 feet, was added thereto. The inner end of the wharf, for a distance of 87 feet, was of stone, covered with plank, and the remainder of the work, of squared timber cribwork, protected by fenders and close-sheathing.

7-8 EDWARD VII., A. 1908

During the severe northwest gale of September 12, 1900, which caused so much damage in the Gulf of St. Lawrence, the woodwork on the stone approach was partly lifted by the sea and moved several feet, and the sum of \$291.23 was expended in putting it back into position; but as shortly after it was again disturbed by the sea, during 1901-2, the sum of \$699.47 was expended in the removal of the woodwork on top of the stone approach; the stone wall under it was taken down to a depth of 4 feet and in its place cribwork was substituted, fully ballasted and covered with the old plank, and the outer faces of both, cribwork and stone wall, were close-sheathed.

The sum of \$2,500 was voted for expenditure during 1903-4 towards the construction of an extension to the wharf, and the amount was expended in procuring the necessary materials, during 1904-5, the extension, 50 feet long and 25 feet wide, was completed, at an expenditure of \$2,000.

The sum of \$3,600 was voted for expenditure during 1905-6 in the construction of a further extension to the wharf, 48 feet long and 24 feet wide, with an 'L' on the western side of the extension, 40 feet long, 24 feet wide, and for the improvement of the road connecting the wharf with the public road. The road was improved at a cost of \$299.61 and the extension was completed, but owing to stormy weather and the loss of some materials, the 'L' could not be completed with the balance of the amount authorized, although most of the materials required for its construction had been obtained.

During the fiscal year ended March 31, 1907, the sum of \$1,499.87 was expended in the completion of the 'L.'

GOOSE BAY.

Goose Bay, Yarmouth county, is situated on the west side of the neck of land or peninsula known as Tusket Wedge, about twelve miles southeast from the town of Yarmouth. The population of the district of Tusket Wedge, within a radius of about two miles, is about a thousand people, engaged in fishing and farming.

For the benefit of local trade, the department in 1905-6, expended the sum of \$2,599.63 in constructing a public wharf of pilework, 290 feet long, 20 feet wide and about 16 feet high at the outer end.

The approach is a stone embankment 80 feet long and from 4 to 8 feet high. At the close of the fiscal year this work was not quite finished.

In 1906-7, the department expended the sum of \$1,506.43 in completing the work.

GRAND NARROWS.

Grand Narrows, Cape Breton county, is on the south-eastern side of the Barra Strait, which connects the Great with the Little Bras d'Or lake.

The old wharf, near the station of the Intercolonial Railway and serving as a landing place for steamers with mails and passengers from Baddeck, was 287 feet in length, including 67 feet of cribwork filled with brush and stone and covered with gravel; 80 feet of pile-work built in 1885-6 by the department over the remains of an old landing pier, built by the provincial government; and an extension 140 feet in length, built by the department in 1883-84. The extension consisted of three blocks each 20 by 20 feet, and an outer block or head, 20 feet in line of work and 60 feet in length, with openings of about 16 feet.

In 1901-2 and 1902-3, \$3,012.16 was expended in reconstructing the wharf, and in extending it 10 feet, with creosoted timber pile-work; the work being then 297 feet in length, 24 feet in width for a distance of 277 feet and 30 feet over the outer 20 feet, with a depth, at the outer end, at low lake level, of 11 feet.

In 1903-4 and 1904-5, \$3,901.86 was expended in extending the wharf 57½ feet, to 15 feet at low lake level, and in the construction of an 'L,' 30 feet by 300 feet, on the southern side and at the outer end of the extension.

In 1905-6, the sum of \$964.44 was expended, \$900 for removing the remains of old cribwork, which projected beyond the southern face of the pile-work extension, and in

SESSIONAL PAPER No. 19

constructing a freight shed, 25 feet in length and 12 feet in width, and \$64.44 for repairing and strengthening the southwest corner of the 'L,' which had been damaged by a steamer.

During the fiscal year ended March 31, 1907, the sum of \$56.51 was expended in raising the roof of the warehouse to a proper pitch and in placing a flooring in the warehouse, over the covering of the wharf.

HALF ISLAND COVE.

Half Island Cove, Guysborough county, is situated on the southern shore of Chedabucto bay, about sixteen miles to the eastward of the town of Guysborough, and twelve miles to the westward of Canso harbour.

On January 6, 1906, a plan with specification for a breakwater off Hurst Island, at the mouth of the Cove, for the protection of the anchorage during the easterly gales, was submitted for approval, and on April 25, following, a contract for the construction, in the sum of \$6,727 was entered into with Messrs. Suttis and Anderson.

The work under contract will extend to 9 feet at low water, and be 270 feet in length; with the exception of the approach, 30 feet in length, which is to be of stone, the structure is to consist of round native timber cribwork, close-sheathed on the seaward side and around the end, and protected from the action of the ice by a stone talus.

The necessary timber was ordered immediately after the signing of the contract, for delivery in the summer, but it was found on delivery that most of the timber was not up to the requirements of the specification; new materials had to be ordered, and as these have to be imported and cannot be delivered before the opening of navigation in the spring, the work under contract was not commenced, up to the end of the fiscal year ended March 31, 1907.

HALL'S HARBOUR.

Hall's Harbour, King's county, is situated on the south side of the Bay of Fundy, about sixty-five miles northeast of Digby Gut and twelve miles southwest of Scott's Bay; it is about twelve miles northwest from Kentville, the county town of King's, and the headquarters of the Dominion Atlantic Railway.

The harbour, though small, is one of the best at high water, between Scott's Bay and Digby Gut. Spring tides rise 39 feet, neaps, 33. The village has a population of about 20 families, and some years ago had a considerable shipping trade, which however, of late years, has dwindled to insignificant proportions.

About the year 1839, the inhabitants, aided by the provincial government, built timber retaining walls on both sides of the harbour, which consists of land-locked basin dry at low water, of about an acre in extent to permit vessels to lie alongside the public road. About 1844 an addition seawards to the wall, on the west side, was built, in order to prevent the accumulation of gravel at the mouth of the harbour, and to serve as a breakwater. About 1885, an addition of 100 feet in length was built at a cost of \$2,000. In 1884, it was repaired by the department at a cost of \$750. On November 6, 1884, the outer block was destroyed by a violent gale, the accompanying heavy seas having also the effect of depositing a bank of gravel which almost entirely obstructed the mouth of the harbour.

Between 1884 and 1891, the only expenditure made upon the work was the sum of \$49.97 applied in sheathing the exposed and broken ends. Repairs and improvements were made in 1891, 1894, 1896, 1899, 1900 and 1905.

In 1905-6, the sum of \$2,500 was expended in completing the dam and sluice, immediately above the public road approach, at the head of the little harbour, which was begun in 1904-5. The dam which is 220 feet long over all and has a maximum height of 18 feet is built of puddle of an excellent clay found in the immediate vic-

7-8 EDWARD VII., A. 1908

nity, mixed with from 15 to 25 per cent of fine beach gravel. The sluice-way which is about the middle of the length of the dam, is about 70 feet long, substantially built of squared timber, with an opening of 9 feet in width, containing two gates each, 4 feet 6 inches high, and 3 feet wide, operated by a pair of winches, situated on the floor of the sluice at the level of the roadway. The dam carries the public road, the ancient highway bridge immediately below being thoroughly dilapidated. This work has proved eminently successful in accomplishing the object of its construction, viz.: the scouring away of the gravel from alongside the breakwater wharf.

The breakwater was transferred to the control of the Department of Marine and Fisheries, June 12, 1888.

In 1906-7, the sum of \$1,628.71 was expended in taking down and rebuilding a very dilapidated portion of the eastern or landward face of the breakwater, 72 feet long, 12 feet wide at bottom and from 22 to 24 feet wide at top and 24 feet high; also a second piece, 26 feet long, 12 feet wide and 8 feet high. The northeast corner of the breakwater was also underpinned with timber and stone to make up scour by the creek alongside.

Spring tides rise about 38 feet.

HAMPTON.

Hampton, formerly Chute's Cove, Annapolis county, is situated on the southeast side of the Bay of Fundy, twenty-seven miles northwest of Digby Gut, and six miles northwest of Bridgetown, an important station on the Dominion Atlantic Railway. It has a population of about 200 people, engaged in fishing, farming and the export of cordwood and timber.

In 1855 and 1856, a small pier, 165 feet long was built near the western side of the cove, the provincial government contributed \$600 to its cost. The site was chosen by commissioners, apparently without professional advice and was objectionable on many accounts. At a cost of \$3,000 in 1879, an addition of 121 feet was made by the department, and the older portion of the work was strengthened with the hope of remedying some of the defects of the location.

In 1881, on further examination, it was found that the original work had been badly undermined by the sea and that owing to the direction of the pier, the shingle was fast shoaling the water on the inside. It was therefore decided to rebuild the structure on another site, about half a mile to the eastward, which work was carried out at a cost of \$2,300. The new pier, as then completed, was 246 feet long, more substantially built and much better situated than the old one, it being located immediately to the westward of a small brook, which serves to keep the schooner berth alongside free from sand.

Repairs and improvements were made in 1889, 1899, 1903-4 and 1905.

In 1906-7, the sum of \$299.22 was expended in renewing about 100 feet in length of the floor, including stringers, the placing and bolting of a number of new fenders on the shoreward face, and the construction of a piece of low cribwork, 50 feet long at the head of the breakwater, to prevent the waves from washing away the public road.

Total expenditure to March 31, 1907, including refund to the provincial government of \$1,538.10, is \$12,863.79.

Spring tides rise 32 feet.

HILTZ NARROWS.

Hiltz Narrows, Lunenburg county, forms the entrance to a small cove, about 150 acres in extent, situated on the west side of Mahone Bay, six miles southwest from Chester and four miles northeast from the village of Mahone.

In 1875-6, the Nova Scotia government built a piece of cribwork wharfing, 270 feet long, 8 feet wide and with an average height of 7 feet, at a cost of \$331.55, the

SESSIONAL PAPER No. 19

residents of the neighbourhood furnishing free labour. The object of the work is to enable boats to warp in at ebb, and out at flood tides, during which time there is a very strong current through the Narrows. Several small amounts have been spent by the department in making repairs.

The work having fallen into a dilapidated condition, the department in the fiscal year 1905-6 expended the sum of \$1,000.04, in commencing a block of cribwork on the opposite side of the Narrows.

In 1906-7, the sum of \$500 was expended in building a further length and completing the work. It is 150 feet long, 12 feet wide and from 8 to 10 feet high, substantially built of round-log cribwork, well ballasted.

Spring tides rise about 7 feet; neaps, 6 feet.

INDIAN HARBOUR.

Indian Harbour, Halifax county, is a small fishing village of between 200 and 300 people, situated twenty-nine miles west of Halifax, by public road, or about sixteen in an air line. It is on the east side of the mouth of St. Margaret's Bay, eight miles south of French Village.

In 1904-5, the sum of \$1,066.16 was expended in constructing a pile-wharf for the convenience of local trade and fishing. The wharf is constructed of blocks and span, the blocks being of substantial crib work filled with stone and well fendered. It is 20 feet wide, with an 'L' at the outer end, giving a face length of 50 feet, along which the work is 17 feet high with a depth of water of 13 feet, at H. W. O. S. T. The approach to the wharf consists of an embankment of stone and earth, 150 feet long and from 3 to 5 feet high. At the end of the fiscal year the work was not quite completed.

During the fiscal year 1905-6, the work was completed, at a cost of \$765.38.

In 1906-7, the sum of \$399.99 was expended in blasting and removing a number of large boulders which obstructed the entrance of the harbour.

IONA (NEW WHARF).

Iona, Victoria county, is on the northern side of Barra strait, which connects the Great with the Little Bras d'Or lake; it is a station on Intercolonial Railway and a landing place for the steamer, which carries mails to and from Baddeck, and connects twice a-day with the express trains going east and west.

The 'new wharf,' so called to distinguish it from the old one on the western side of the railway bridge, was constructed by the department in 1902, and extended during 1904. It is a block and span structure, 400 feet in length, 20 feet wide for a distance of 138 feet, and 30 feet wide for the remaining 262 feet; the blocks are constructed of round timber, creosoted to high lake level, and close-sheathed on the seaward faces and the outer end of the work. The wharf extends to 11 feet, at low water, and is connected with the railway station by a road, 350 feet in length.

All freight by rail from Baddeck, which is the distributing centre for the trade of the county of Victoria, is shipped via Iona and thence to its destination by steamer *Blue Hill*; for the accommodation of this freight, in 1905-6, the sum of \$900 was expended in the construction of a warehouse, 40 feet long and 20 feet wide, resting on a creosoted timber pile foundation, on the southern side of the inner end of the wharf; the work was completed, except the laying of the second floor, the wainscoting and the outside painting.

During 1906-7, the sum of \$100 was expended to complete the warehouse.

IONA (OLD WHARF).

The 'old wharf' at Iona, Victoria county, so called to distinguish it from the new wharf, on the eastern side of the railway bridge, was originally constructed by

7-8 EDWARD VII., A. 1908

the provincial government, but was acquired by the department, by which it was repaired, reconstructed and extended.

The work is 195 feet in length on the western face and consists of an approach, 129 feet long and 20 feet wide; of a span, 24 feet long, and of a 'head,' 42 feet wide at the western, and 22 feet on the eastern end, and 70 feet long on the channel face. The approach is constructed of close-faced, square timber cribwork, partly covered with gravel and partly planked over; the 'head' is built on creosoted timber piling.

During the year 1905-6, the sum of \$100.31 was expended in repairs to the faces and top of the approach.

The sum of \$500 was authorized for expenditure during 1906-7 for replacing native timber fender piles around the 'head,' which had been destroyed by the teredo, with creosoted timber piling, but owing to the non-delivery of the creosoted piling, the work could not be accomplished and no part of the amount authorized could be expended.

JANVRIN'S ISLAND.

Janvrin's Island, Richmond county, is a large island to the westward of Madame island, from which it is separated by Mousselier's passage.

The sum of \$2,000 was voted for expenditure during 1904-5, towards the construction of a native timber block and span wharf, on the northern side of Janvrin's harbour, 195 feet in length and 16 feet wide, and extending to 8 feet at low water. In the autumn of 1904, all the cribwork blocks were built up to the required height ready for the floor stringers, except the outer block, which was built up to within 4 feet of the top.

The sum of \$600 was voted for expenditure during 1905-6, to complete the work, but owing to heavy damage to the outer block by ice during the previous winter, the amount voted proved insufficient to finish it; the fendering, capping and the sheathing and stone ballasting still remained to be done.

During 1906-7, the sum of \$299.99 was expended in placing the sheathing, the capping and the fenders, but it will require some ballasting before the work can be completed as specified.

JERSEY COVE.

Jersey or Eel Cove, is situated on the northeastern end of St. Ann's harbour, in the angle formed between the beach at its entrance and the mainland.

On October 21, 1906, a contract was entered into with Mr. Hugh McDonald, in the sum of \$4,620 for the construction of a wharf, but up to the end of the fiscal year 1906-7, the work had not been commenced, but all the materials required were ordered for delivery in the spring.

The work under contract is a block and span wharf, with creosoted timber substructure and extending to 10 feet at low water, 183 feet long and 20 feet wide, with an 'L' on the northeastern side of the outer end, 10 feet long and 20 feet wide. It will be connected with the public road by an approach 105 feet long and 16 feet wide, consisting partly of block and span work, and partly of clay embankment and grading.

Total expenditure in 1906-7, \$189.09.

JOGGINS MINES.

Joggins Mines is a town of about 1,600 people, situated on the shores of Chignecto bay, about fifteen miles southwest of Amherst. Its chief support is the industry of coal mining conducted at that place by the Canada Coals and Railway Company.

A breakwater was constructed by this department in 1887, at the foot of a bank some 75 feet in height, which breakwater is also used by the people generally as a wharf. This work has been repaired several times by the department. The people

SESSIONAL PAPER No. 19

had so much difficulty in getting to it, to either ship or receive their freight, that it was fast falling into absolute disuse, so that in the fiscal year 1905-6 we began the cutting of a road through this high bank, and during that year the sum of \$2,999.81 was expended on the work, and during the last fiscal year the sum of \$862.13 was expended in completing the same.

This road now enables the merchants and others to get their goods at any hour of the day they wish, whilst formerly they were compelled to go round by the shore and could only reach the wharf by this circuitous route at low tide. This road will no doubt need repairs from time to time, but they should not, if attended to in proper time, be of a very serious nature.

JUDIQUE (MCKAY'S POINT.)

Judique (McKay's Point). Inverness county, is on the east side of St. George's bay, ten miles south of Port Hood, and sixteen miles north of the northern entrance to the Strait of Canso.

The breakwater at McKay's Point, commenced in 1898 and finished in 1900, is 725 feet in length, 20 feet in width, with an 'L' 20 by 20 feet at the outer end, of round timber, laid open-faced, with creosoted timber substructure, close-fendered round the outer end and the 'L,' and protected on the seaward side by a talus of stone. The depth, at extreme low water, at the outer end, is 6 feet. Spring tides rise 4 feet.

In 1902-3, the sum of \$598.77 was expended in repairs. In 1903-4, the sum of \$393.48 was expended in close-fendering 400 feet of the seaward face, from the 'L' inwards.

During the fiscal year ended March 31, 1907, the sum of \$138.30 was expended in reconstructing the outer portion of the 'L,' and in placing quarried stone in the talus on the seaward side of the breakwater, near its junction with the 'L.'

KELLY'S COVE.

Kelly's Cove, Yarmouth county, lies about two and a half miles south of the present town of Yarmouth. Fifty to a hundred years ago, it was the harbour of the place, and round its shores was all that then constituted the town. At the present date, it is merely a shelter for about a dozen fishing boats, and there are but few houses in the immediate vicinity.

The present breakwater wharf, built before Confederation by the provincial government, is old and a good deal decayed, though the bottom timbers are still sound. It is 97 feet long, 23½ feet wide, and 15½ feet high, at the outer end, where at H.W.O.S.T. there is about 12 feet of water. The work is of ordinary round-log stone-filled cribwork and not floored. Immediately to the southwest of the wharf is a piece of cribwork, built to protect the beach, 118 feet long, 4 feet high and about 8 feet wide, and of which the 30 feet next the wharf has been destroyed by the waves.

During the year ended June 30, 1898, the sum of \$299.72 was expended in partially rebuilding the top of the breakwater wharf, and in the renewal and repair of 100 feet in length of the beach protection work adjoining the wharf.

For the protection of the fishing fleet, the department, on March 27, 1906, awarded a contract in the sum of \$7,700 for the construction of a new breakwater.

Work was begun about July 1, 1906, and finished in October, 1906. It is 281 feet long, 26 feet wide on top, and from 6 to 17 feet high, substantially built of round-log cribwork, close-sheathed on the seaward face. Spring tides rise 12 feet.

In 1906-7, the sum of \$99.60 was expended in under-pinning the west or seaward face of the work, which was being undermined by the undertow set up by the breakwater itself.

Total expenditure in 1906-7, \$7,147.10.

7-8-EDWARD VII., A. 1908

LA HAVE ISLANDS.

La Have islands (Crooked channel), Lunenburg county, off the coast of the southern part of the county of Lunenburg, opposite to, and to the southward of the mouth of the La Have river, are from thirty to forty islands, varying in size from a few square yards to about a square mile.

Most of the larger islands are inhabited, their aggregate population being some 200 or 300 people, engaged in fishing and farming. The islands are distant from the mainland from one-half to three miles, and they are all more or less connected with each other and to the mainland, by shallow banks and mud flats, covered at H.W.O.S.T., but bare or nearly so at low water. In and about the flats are numerous channels and deep holes, but boat navigation is intricate, and in many cases very circuitous.

The principal boat channel through the archipelago lies approximately east and west and is appropriately known by the name of 'Crooked channel,' its landward end being in Green bay, to the southward of the end of Petite Rivière beach, a long, narrow strip or bar of sand, projecting about a mile and a quarter from the main shore—it gave no direct or easy access to the village of West Dublin, lying about two miles to the northward.

To give the inhabitants of the larger islands, viz., Bushe's and Bell's, more direct communication with the village on the mainland, where they resort for a market, the department, in September and October, 1893, dug a boat channel, 2,300 feet long, 40 feet wide, and three to four feet deep at low water ordinary spring tides, in a northerly direction from the main crooked channel on the south, to deep water on the north between the extremity of the Petite Rivière beach and Bushe's island. The work was all done by hand, at low water, at a cost of \$923.73.

In 1906-7, the sum of \$1,097 was expended in re-opening 1,100 feet of this channel, from 18 to 20 feet wide and from three to four feet deep, which had filled up in the thirteen years since it was first dug.

L'ARDOISE.

L'Ardoise, Richmond county, is situated on the eastern side of St. Peter's bay, near its entrance from the Atlantic ocean, and about six miles to the eastward from the southern entrance to St. Peter's channel.

An isolated breakwater, built in 1876-7, off Martin's Point, in from 5 to 10 feet, at low water, and almost destroyed in 1883, was reconstructed during 1891-2-3.

The work consists of a timber core, 400 feet long and 20 feet wide placed over the remains of the original structure in from 1 to $4\frac{1}{2}$ feet at low water; the whole being covered with stone, sloping 3 to 1 on the seaward side and outer end, and 2 to 1 on the inside and inner end. The whole surface of the work, above low water mark, was covered with stone of not less than 15 cubic feet each, and the spaces between the stones above the line of high water, were filled in with concrete.

Since the completion of the work, the covering stones, on the seaward side and outer end slopes, which had been disturbed by the sea, were replaced and a concrete wall 3 feet wide on top and $4\frac{1}{2}$ feet in height, with top flush with the surface covering, has been constructed over the outer face and the ends of the cribwork core.

The breakwater averages $17\frac{1}{2}$ feet in height, from the original bottom to the top of the stone covering, which is five feet above high water, and 10 feet above low water springs.

In order to stop the undertow from sweeping into the harbour, through the gap between the inner end of the breakwater and the shore to the eastward of it, a distance of 1,195 feet, on December 29, 1903, a contract was entered into for closing the gap. The work was commenced on July 1, 1904, and completed on August 12, 1905, and consists of a native round timber structure, 1,145 feet in length, and of stone embankment 50 feet long to connect the cribwork with the old work. The cribwork for a distance of 350 feet from its outer end is 20 feet wide on top, and protected by a stone talus on each

SESSIONAL PAPER No. 19

side; for a distance of 795 feet it is 16 feet wide on top, also protected by a stone talus on the seaward face. The stone embankment between the outer end of the cribwork and the old breakwater, is built with large quarried stone and is 16 feet wide on top, sloping 3 to 1 on the outer, and 2 to 1 on the inner side.

After the year 1900, when the breakwater was repaired, slight disturbances of the stone covering took place yearly until the winter of 1904-5, when during a very severe gale, the heavy seas threw large masses of ice onto and against the structure, dislodging the stone covering and cutting several gaps through the top; in 1905, the sum of \$491.49 was expended in making temporary repairs.

The sum of \$5,000 was voted for expenditure during 1906-7 for placing the breakwater in thorough repair, but owing to the shortness of the season and the exposed condition of the work, out of the amount voted, the sum of \$3,868.21 only could be expended during the season; however, the work was left in a perfectly safe condition. The amount was expended in repairing the top, and in replacing the stone covering where necessary, down to low water, stones being bedded in concrete, and above the line of high water, the stones were carefully laid and the spaces between them were filled in solidly with concrete. At the outer end of the work, a concrete retaining wall, 24 feet long, 10 feet wide and of an average height of 6 feet, was constructed.

LARRY'S RIVER.

Larry's River, Guysborough county, is at the western extremity of Tor bay, a bay on the Atlantic coast of Nova Scotia, twenty-four miles to the westward of Canso harbour.

The harbour, a channel through flats improved by dredging, was formerly protected from the eastward by a beach and bar of shingle. Since 1896, the point of the beach at the northern extremity of the bar and the bar itself have been lowered and carried inward, toward the channel.

A contract entered into in September, 1902, for the construction of a breakwater to restore the shelter formerly afforded by the beach and bar, was completed in July, 1904. The breakwater consists of two sections of stone embankment respectively 125 and 379 feet in length, each 14 feet in width at a level of 2 feet above high water and 6 feet in average height, and a central section of cribwork 500 feet in length, 14 feet in width on top and 11½ feet in average height, protected on the seaward side by close-fendering and by a talus of stone sloping 2 to 1 from high water. The embankment and cribwork were finished at a height of 4 feet above extreme high water. Spring tides rise 6½ feet.

In 1904-5, the sum of \$1,207.52 was expended in procuring all the materials with the exception of the stone and the cap-timbers (guard-rails) required in the construction of a 'spur' on the southwestern side and near the outer end of the breakwater, 125 feet in length including 20 feet of stone embankment, and 105 feet of cribwork, fully ballasted and close-fendered on the seaward side and at the outer end.

In 1905-6, the sum of \$1,490.93 was expended in constructing about one-third of the embankment, and in completing the cribwork with the exception of procuring and placing the floor-stringers and cap-timbers and of placing the covering and part of the upper fenders and sheathing. In addition to the above, the sum of \$99.32 was expended in repairing and protecting the stone embankment at the outer end of the breakwater.

During the fiscal year ended March 31, 1907, the sum of \$793.51 was expended in completing the embankment and cribwork in progress in 1905-6, and in replacing some ballast washed out of the cribwork during the winter.

LITCHFIELD.

Litchfield, Annapolis county, is a fishing and farming settlement, with a population, within a radius of a mile, of about 150 people, situated on the south coast of the Bay of Fundy, fourteen miles northeast of Digby Gut.

7-8 EDWARD VII., A. 1908

In 1904-5, the sum of \$3,000 was expended in constructing a breakwater for the protection of the fishing fleet. The work, which the appropriation did not suffice to completely finish, is 170 feet long, from 20 to 25 feet wide and from 8 to 15 feet high, substantially built of round-log cribwork, filled with stone and close-sheathed on the seaward side and outer end. The seaward side is provided with a break four feet six inches high.

In 1905-6, the sum of \$999.30 was expended in completing the breakwater, nearly completed in 1904-5, and in under-pinning the shore end of the work, which had been undermined by an unusual freshet in the stream issuing alongside.

In 1906-7, the sum of \$499.50 was expended in the purchase of timber for the further extension of the breakwater.

Spring tides rise about 30 feet.

LITTLE BROOK.

Little Brook, Digby county, is situated on the thickly-settled east shore of St. Mary's bay, Bay of Fundy, two and a half miles from Church Point, thirty-three miles south from Digby, the county town, and thirty-six miles north of Yarmouth.

Some years prior to confederation, a breakwater was built by the inhabitants, aided by the provincial government.

In 1873, four blocks of cribwork, in the middle of the breakwater, were partially destroyed by a gale, and the sum of \$600 from the 'Provincial Navigation Securities' was expended in repairs.

In 1891-2, the sum of \$100 was expended by the department in repairing the upper portion of the work, which was considerably damaged by an exceptionally high tide in the autumn of 1890. A piece 20 feet square by 5 deep was rebuilt, and 100 tons of additional ballast put in the work.

This breakwater was substantially built of stone-filled cribwork of the usual type. It is 400 feet long, 20 to 35 feet wide, and 20 feet high at the outer end, where there is an ell 40 feet long by 25 feet wide. It is much used during the summer months for shipment of piling, cordwood, lumber and timber, and small quantities of fish and the landing of general merchandise and supplies for local trade and consumption. Little or no use is made of it in winter, owing to the accumulation of ice. At H.W.O.S.T., there is a depth of 15 feet of water at the outer end. At low water the sand flats are many hundred feet beyond the breakwater.

In 1900-1, the sum of \$279.32 was expended in repairs.

In 1904-5, the sum of \$2,000.13 was expended in extending the breakwater by a new block 40 feet long, 31 feet wide, and from 20 to 30 feet high.

In 1905-6, the sum of \$4,998.53 was expended in :

(a) Taking down and rebuilding a portion of the south side and outer end, 95 feet long, 10 feet wide and from 12 to 18 feet high.

(b) Taking down and removing an old block on the north side of the outer end, 35 feet long, 25 to 30 feet wide and 20 feet high, which was falling to pieces, and in constructing a further extension to the work.

(c) Constructing a re-enforcing block on the north side of the shore end of the work, 50 feet long, 10 feet wide, and from 10 to 12 feet high.

(d) Constructing an extension of the breakwater, 60 feet long, 31 feet wide, 20 to 22 feet high, with an 'L' to the north 30 feet long, 25 feet wide and 22 feet high.

The last item was not quite completed at the close of the fiscal year.

In 1906-7, the sum of \$2,400 was expended in completing the extension begun in 1905-6, and making general repairs to the breakwater; the extension is 60 feet long, 31 feet wide, with an ell on the northern side, 30 by 28 feet; the work is from 20 to 21 feet high, and, at the outer end, carries about 17 feet of water at H.W.O.S.T. At L.W.O.S.T. there is no water within a couple of hundred yards of the end of the breakwater.

SESSIONAL PAPER No. 19

LIVERPOOL

Liverpool is a thriving town of some 3,000 people, situated at the mouth of the Mersey river. It is about seventy miles southwest of Halifax city. Fishing, ship-building, lumbering, pulp works, the supply of electrical power and other kindred industries are engaged in by these people.

The harbour is a barred one, and, in the fiscal year 1905-6, the sum of \$2,998.02 was expended in removing rocks principally from this bar, there being 995 tons of stones then removed.

During the last fiscal year, the sum of \$1,292.83 was expended in removing an additional amount of about 360 tons, making the cost per ton for the entire work about \$3.17.

LIVINGSTON'S COVE.

Livingston's Cove, Antigonish county, is on the southeastern shore of Northumberland strait, about two miles southwest from Cape George.

For the purpose of affording shelter to the fishing boats of the district, and a landing place for steamers and small vessels, a pier, extending to 9 feet at low water, was commenced by the department in 1899 and completed in 1902.

The work is 312 feet in length, with a road approach, 105 feet in length, cut through the clay bank. The pier is a continuous structure and consists of a shore abutment with stone retaining walls, 30 feet long and 18 feet wide, and of a cribwork block 80 feet long and 19 feet wide, and of a cribwork extension, 202 feet in length and 24 feet wide, with an 'L' on the southern side of its outer end, 24 by 24 feet. The cribwork is constructed with native square timber in the faces, laid with 7 inch opening, and round timber ties, and is fully ballasted and fendered; the northern or seaward side, the outer end and the southern face of the 'L' were sheathed with hardwood.

Contrary to expectations, it was found that the teredo was injuring the work, particularly on the seaward face and end, and to prevent further damage, during 1903-4-5, a stone talus was placed along the seaward face to within 20 feet of the outer end and creosoted timber piling were driven at the end of the seaward face, on the outer end and around the 'L.'

During 1905-6, the sum of \$1,000 was expended in raising the stone talus, in repairing the cribwork at its inner end and in protecting, temporarily, places on the inner face of the work, which showed signs of damage by the teredo, with native timber close-sheathing, driven into the sandy bottom.

The sum of \$1,800 was voted for expenditure during 1906-7, to close-pile, with creosoted timber, the outer portion of the inner face of the work, for a distance of 120 feet, but as that timber could not be delivered during that fiscal period, out of the amount voted, the sum of \$711.28 was expended in placing about 120 cubic yards of heavy stone in the talus, in repairing the outer corners, and in procuring and placing native timber waling on the inner face of the work, where the creosoted piling is to be driven.

Spring tides rise $4\frac{1}{2}$ feet.

MCNAIR'S COVE.

McNair's Cove, Antigonish county, is on the west side of St. George's Bay, about two miles to the southward of Cape George.

A breakwater, 400 feet in length, and 20 feet in width was built on the north side of the cove during 1872-3-4, and in 1878 a length of 20 feet was added thereto. In 1879 the work was carried away by drift ice to within 100 feet of the shore end, down to from 3 to 6 feet below low water. During the summer of 1883, 70 feet of the shore end was rebuilt, and during the winter of 1884, the work was extended 94 feet,

7-8 EDWARD VII., A. 1908

but this extension was badly damaged by drift ice in April, 1885, and was subsequently carried away.

During 1886-7-8, the bottom of the damaged work was dredged out and a new work, 160 feet in length, 34 feet wide on top, with a sloping face on the seaward side, was constructed, and on its completion the total length of the breakwater was 330 feet.

The work was constructed entirely of native timber, and as it became weakened by the action of the teredo, during the years 1890-1-2-3-4, the outer end, on each side of it for a distance of 20 feet, was protected by creosoted timber close-piling, and its seaward face, by a talus of quarried stone.

During the years 1897-1901, the timber wall under the sloping face, which was destroyed by the teredo, was reconstructed down to low water and close-fendered with hardwood timber; the stone talus was raised up to the top of the close-fendering, and the work was rebalasted and recovered where necessary.

During 1901-2-3, the inner end of the work which was constructed partly in 1872 and partly in 1883, and was only 20 feet wide, was, for a distance of 120 feet, widened to 30 feet, and the old top was cut down to low water and reconstructed with new materials.

During 1903-4-5, an extension 80 feet long, and 32 feet wide, placed across the outer end of the old work and forming an 'L,' 40 feet in length, was constructed, as a protection to the old work, and to improve the sheltered area behind the breakwater. The work is constructed of round timber, creosoted to half tide, fully ballasted and fendered, and is protected on all outer faces with close-sheathing.

In the fiscal year ended March 31, 1907, the sum of \$244.56 was expended in placing some stone in the talus, in rebalasting the work in places, and in the renewal of a few pieces of covering.

Spring tides rise 4 feet.

MABOU BRIDGE.

The village of Mabou, Inverness county, is on the northeast side of Mabou river, where it is crossed by a bridge and highway, at the head of navigation, four miles from its entrance into the Gulf of St. Lawrence.

Of the appropriation for 1904-5, which was for expenditure in the construction of a wharf on the southwest side of a proposed 10 foot low water channel, (since completed), through flats nearly dry at low water, to the bridge, \$968.18 was expended in procuring the materials required for a pile wharf, 121 feet in length and 20 feet in width, and for a cribwork approach, 40 by 40 feet, (with pile-work, 10 feet in width at its channel face), adjoining the approach to the bridge; in driving half the bearing-piles and in nearly completing the approach.

In 1905-6, the sum of \$1,318.68 was expended, \$850.21 in completing the pile-work and \$468.47 in placing a top course of round timber at the sides and end of the approach, in procuring materials for a 60 foot extension of the pile-work, and in driving and capping the bearing-piles of the extension.

During the fiscal year ended March 31, 1907, the sum of \$217.04 was expended in completing the extension.

MABOU HARBOUR.

Mabou harbour, Inverness county, is on the west coast of Cape Breton island, six miles northeast from Port Hood.

The entrance was formerly at the southern extremity of a range of sand hills and by an intricate channel, obstructed by a bar over which there was a depth of only 4 feet, at extreme low water.

The opening of a new channel through the sand hills at their northern extremity was undertaken in 1872. A pier, 835 feet in length, on the southern side of the new channel, was completed in 1876, and the same year the old channel was closed. Ex-

SESSIONAL PAPER No. 19

penditures were made nearly every year from 1876 to 1902 in repairs to the pier, the construction of brush and stone work on the southern side, of protection works on the northern side of the channel, and in dredging.

On the completion of repairs undertaken in 1901-2 the works included:—

On the south side: (a) the remains of a pier, 835 feet in length and 20 feet in width, founded in about 12 feet at extreme low water, and sloping from about 10 feet below extreme low water at the face to 2 feet above extreme low water at the back; (b) a work of brush and stone of various widths, extending outward from the outer end of the pier about 1,600 feet, the inner end of which is 8 feet above and the outer end 5 feet below extreme low water; and (c) brush and stone work at the back of the pier 800 feet in length, 10 to 12 feet in width on top, and 7 feet in average height; and, on the north side, (d) 5 pile and brush groynes, four of which are from 75 to 85 feet and one 45 feet in length.

In 1903, the minimum depth, at extreme low water, over the bar, about 600 feet from the head of the pier, was 8 feet 3 inches. Spring tides rise 4 feet. Since 1903 the depth over the bar has been increased by dredging.

In 1905-6, the sum of \$299.94 was expended in repairing the groynes on the south side of the entrance to the harbour.

During the fiscal year ended March 31, 1907, the sum of \$1,999.90 was expended in repairing the groynes on the north side of the entrance and in raising the brush and stone extension on the south side, over a distance of 320 feet, from the inner end outwards to a height of about 2 feet above extreme high water.

MALAGASH.

Malagash is situated at the extreme northwest corner of Tatamagouche bay, and is distant from the village of Wallace about twelve miles. It is a scattered and straggling settlement, some three miles in length, with a population of about 500 people. Farming is the chief pursuit of these people, although some perfunctory fishing is conducted along its shores. The Malagash oyster is famous the world over, the only drawback of late years being their scarcity.

These people are situated about six miles from any wharf, and about four miles from any railroad station, thus being unable to ship their farm produce to advantage. They therefore requested the construction of a wharf near the central portion of their settlement. In June, 1906, a contract was let for the construction of the proposed wharf, and the amount of the contract was \$3,447. Work was begun last fall, but had to be stopped owing to the freezing up of Tatamagouche bay. Very good progress has been made on this work, but owing to difficulty and lost time in procuring the requisite timber for works of this nature in the summer time, it will not be finished this year.

This work consists: first, of a rock bank approach, 36 feet in length, 24 feet wide on top and 9 feet high at the outer end; secondly, of an alternate block and span, crib-work wharf, 280 feet in length, 20 feet wide, with the exception of the last 40 feet, which will be 40 feet wide, and has a height, at the outer end, of 19 feet. There is about $7\frac{1}{2}$ feet of water at the end of this wharf at L.W.O.S.T.

Spring tides rise about 8 feet, and neaps about $5\frac{1}{2}$ feet.

Expenditure during fiscal year ended March 31, 1907, \$1,706.30.

MARGAREE HARBOUR.

Margaree harbour, at the mouth of Margaree river, Inverness county, is on the west coast of Cape Breton island, about thirty miles northeast of Port Hood. It is a narrow intricate channel through which the tide runs at the rate of four knots, and its entrance is obstructed by a bar of shifting sand over which there is, at times, a depth of only 5 feet at extreme low water.

7-8 EDWARD VII., A. 1908

Expenditures have been made by the department in the construction and maintenance of channel protection and improvement works on the west side of the entrance, and in the construction of beach protection works on the east side.

The works on the west side include works built by the provincial government and extended by the department, and works undertaken in 1900-1.

The old provincial government works (reconstructed by the department) extended 400 feet from the shore, across what was originally a false channel, to a large rock opposite the inner entrance and thence, at right angles, to the edge of the channel.

The work built by the department extends from the north side of the outer provincial government works outwards, along the west side of the channel, 595 feet. It is in four sections; 85 feet (built in 1876), 130 feet (built in 1879), 200 feet (built in 1890), and 180 feet (built in 1899), respectively 18, 16, 18 and 20 in width on top, and 15, 14, 12 and 16 feet in height. Each section is of round timber, open-faced, and is fully ballasted and close-fendered at the sides and outer ends. The top of the covering is from 4 feet 4 inches to 5 feet above extreme high water. The depth, at extreme low water, along the channel face, originally varied from 7 to 2½ feet. Spring tides rise 4 feet.

The improvements undertaken in 1900-1, and completed, with the exception of part of the submarine rock excavation, in 1902-3 included: deepening along the channel face of the extension to 8 feet at low water over a distance of about 400 feet, and the construction of a shear-dam, within the entrance, 180 feet in length, including 25 feet of brush and stone work, 11 feet wide on top, 100 feet of pile and brush work, 10 feet wide, and 55 feet of cribwork, 22 feet wide founded on brush in from 1 foot 3 inches to 9 feet 9 inches at extreme low water.

Expenditures were made in 1903-4 and 1904-5 in continuing the submarine rock excavation and in general repairs.

In 1905-6 the sum of \$1,495.15 was expended, \$936.24 in continuing the deepening to 8 feet at low water (submarine rock excavation) and \$558.91 in reconstructing 239 feet of the upper portion of the old work across the false channel, from the outer rock inwards and in reballasting some of the face-chambers of the extension.

During the fiscal year ended March 31, 1907, the sum of \$1,002.09 was expended in partial reconstruction of the beach protection works, on the east side of the entrance, and in reballasting and repairing the work built by the department on the west side.

MARGAREE ISLAND.

Margaree island, Inverness county, is situated in the Gulf of St. Lawrence, two and a half miles off the western coast of Cape Breton island, and twenty-seven miles northeast from Port Hood.

In 1899-1900-1, the sum of \$3,312.34 was expended in procuring materials and in nearly completing a wharf, near the southern extremity of the island, 98 feet in length and 20 feet in width, including a stone abutment 26 feet in length and cribwork block extending 72 feet to 5½ feet at low water.

During a gale in September, 1900, the 72-ft. block, after losing its ballast, was moved 17 feet out of position, and the stone embankment was destroyed.

In 1901-2, the sum of \$1,399.13 was expended in replacing and completing the 72-ft. block, in constructing 28 feet of cribwork between it and the shore and in making a roadway or approach, along the face of the cliff.

In 1905-6, the sum of \$499.65 was expended in repairing the inner portion of the wharf including the construction of a concrete wall, on the west side, 18 feet in length, 4 feet in width and 7 feet in average height and in reballasting and covering the work between it and the east side.

In 1907, the sum of \$70.95 was expended in December in procuring materials for bulk-heading and close-fendering at the existing outer end.

SESSIONAL PAPER No. 19

METEGHAN RIVER.

Meteghan river, Digby county, empties into the Bay of Fundy, at the mouth of St. Mary's bay, almost directly opposite Grand passage, between Long island and Brier island. The village at the mouth of the river is twenty miles south of Weymouth, twenty-eight miles north of Yarmouth and two and a half miles north of Meteghan or Meteghan Cove. The population of the village is about 400 people, engaged in farming, fishing, lumbering and general trade. The nearest railway station, on the Dominion Atlantic Railway, which runs parallel with the bay shore, is about four miles from the village. On the river, which is about eighteen miles long, are some twenty saw mills, most of which send lumber down to the mouth of the river for export to the West Indies and the United States, the total amount of the output aggregating over a million feet B.M. annually. The works here, which were built some years before confederation, presumably at the joint expense of the provincial government and the inhabitants, consist of two breakwaters, one on either side of the river mouth, inclosing an area of about three acres, in which at H.W.O.S.T. is a depth of 10 to 15 feet of water, giving ample berth accommodation and complete shelter to a large number of fishing and coasting vessels.

The north breakwater is about 400 feet long, 25 feet wide and 13 feet high at the outer end. Both breakwaters are built of stone-filled cribwork of the usual type. When the work came in charge of the department, the older portions were much decayed and extensive repairs were needed, which were made in 1873, at a cost of \$4,500. Repairs and improvements were made in 1882, 1891, 1901-2-3-4 and 1905.

In the year 1906-7, the sum of \$533 was expended in finishing the close-piling of the seaward face of the breakwater.

MILL CREEK.

Mill Creek, King's county, is a small farming settlement of some 200 or 300 people, situated on the eastern side of the Basin of Minas, three miles south of Cape Blomidon, about four miles north of Kingsport, the terminus of the Cornwallis Valley railroad, a branch of the Dominion Atlantic Railway.

Some twelve or fifteen years ago, the inhabitants, for their own convenience and accommodation in shipping fruit and farm products, built a small pile-wharf, but, their available means having given out, they were unable to finish it. The unfinished wharf was 160 feet long, and from 20 to 25 feet wide, built of pilework. During the fiscal year 1899-1900, the department expended the sum of \$1,904.18 in extending and completing this old wharf. The new work is 79 feet long, in line with the old, with an ell at right angles to it, with a face length of 93 feet. The main portion of the new work is 30 feet wide, the ell being 25 feet wide. The new work is substantially built of pilework and close-piled on the west and south faces. It is 20 feet high along the whole length of the face giving about 17 feet at H.W.O.S.T. Spring tides rise here nearly 50 feet, so that at low water there is no water within a quarter of a mile of the wharf.

In 1905-6, the sum of \$1,955.08 was expended in extending the pilework wharf by a substantial block of cribwork, 50 feet long, 28 feet wide and 20 feet high. Owing to the difficulty of getting labour in the month of June, the work was not quite completed at the close of the fiscal year.

In 1906-7, the sum of \$360.21 was expended in a further extension of the work. Again, the work was not quite completed at the close of the fiscal year.

Spring tides rise over 50 feet.

MIDDLE COUNTRY HARBOUR.

Country Harbour, Guysborough county, is on the Atlantic coast of Nova Scotia, thirty-six miles to the westward of Cape Canso. It has an excellent land locked

19—iv—3

7-8 EDWARD VH., A. 1908

anchorage, in $4\frac{1}{2}$ fathoms, four miles inland and is navigable for large vessels six and a half and for small vessels to Narrows Point, eight and a half miles inland. Boats can ascend to the head of tide two miles above Narrows Point.

The sum of \$3,000 was appropriated for expenditure during 1905-6, in the construction of a wharf, at Middle Country Harbour, seven miles inland or one mile below the head of navigation for small vessels at Narrows Point. A plan and specification of a proposed wharf were submitted, but up to the end of the fiscal year no further action had been taken.

A contract was entered into on March 1, 1907, in the sum of \$2,200, for the construction of a wharf extending 143 feet to $14\frac{1}{2}$ feet at low water, and consisting of a stone abutment, 22 feet wide on top, three cribwork blocks each 20 by 20 feet on top, and an outer block, 20 feet in line of work by 30 feet, with openings 16 feet in length spanned over; the blocks to be of round native timber, laid open-faced, properly ballasted and fendered. Up to the end of the fiscal year ended March 31, 1907, work of construction had not been commenced.

Expenditure during 1906-7, \$211.13.

MIDDLE RIVER.

Middle river, Victoria county, is a large stream emptying into Indian bay on the northern shore of St. Patrick's channel, an arm of the Little Bras d'Or lake.

About five miles from its mouth, the river flows through alluvial soil, easily acted upon by the strong current during freshets, and in consequence, a large amount of valuable land has been destroyed.

During 1903-4-5, a shear-dam, 600 feet in length and 15 feet wide, and built with piles, brush and stone, sheathed with plank on the channel face, was constructed for the purpose of closing a new channel to divert the stream into the old river bed, and to straighten the river's course.

The work has proved effective in diverting the stream, which now flows in a straight course, and the danger of destroying the adjoining lands has been greatly lessened.

During 1905-6, the sum of \$499.73 has been expended in strengthening the dam, where danger of undermining existed, and in extending for a distance of 200 feet the brush and stone protection work at the upper end of the dam, to prevent the strong currents from cutting the narrow neck of land between the dam and the mainland, and form a new channel.

An examination of the river at this point was made in August, 1906; it was found that the river, above the dam, had changed its course, and that danger existed of the dam being cut off from the mainland, in which case a new channel would have formed and destroyed the usefulness of dam. During the fiscal year ended March 31, 1907, a pile, brush and stone dam, 150 feet in length, was constructed above the old dam, for the purpose of directing the course of the river back into its old bed; the brush and stone dam, on the narrow neck of land at the head of the old dam was raised and strengthened. The total expenditure incurred during the fiscal year on this work was \$747.57.

NEW CAMPBELLTON.

New Campbellton, Victoria county, is at the head of Kelly's Cove, on the northern side of the Great Bras d'Or channel, about one mile from its entrance into the Atlantic ocean.

The cove is about half a mile in width, at the mouth, and a quarter of a mile in depth, and has a depth of about 20 feet at low water. It is sheltered from all winds, excepting southwesterly, but as these blow down the Bras d'Or channel, they do not cause much inconvenience.

SESSIONAL PAPER No. 19

It is the shipping place of the Cape Breton Coal Mining Co., and a port of call for the steamers of the Bras d'Or Steam Navigation Co. Owing to the want of a proper and permanent ballast ground, the ballast was often deposited by vessels, where most convenient to them without due regards to its damaging effects, and in consequence the depth of water in the cove has been reduced.

On September 13, 1905, a contract was entered into, in the sum of \$17,000 for the construction of a wharf at the end of the coal shipping pier, to serve as a landing place, as well as a ballast wharf, and for repairing and strengthening the old shipping pier, which is to serve as an approach to the wharf.

The work under contract included the reconstruction of the top of the old shipping pier; the construction of a native round timber cribwork retaining wall, 165 feet long and 12 feet wide on top, along the southern side of the old pier; a creosoted timber pile extension at outer end of old work, 61 feet in length and averaging 22 feet in width; and for a cribwork extension, with creosoted timber substructure to serve as a ballast as well as a public landing wharf, forming an 'L' on the southern side of the pile extension, 200 feet long and 24 feet wide.

The work of construction was commenced early in June, 1906, and by the end of that month, the cribwork retaining wall on the southern side of the old work, was nearly completed.

Owing to delay in the delivery of the creosoted timber, little progress was made with the work during the months of July, August and September, but early in October, on the arrival of the timber, the work was vigorously resumed, and on January 24, 1907, the work under contract was completed and accepted.

After the completion of the contract, the sum of \$150 was expended by days' labour, in placing an additional amount of ballast in the face-chambers of the cribwork extension.

Total expenditure during fiscal year of 1906-7, \$15,775.50.

NEW HARBOUR.

New Harbour, Guysborough county, is on the southern or Atlantic coast of Nova Scotia, thirty miles to the westward of Canso harbour. It is merely a shallow bay, open to the southeast, at the head of which is the entrance to St. Catherine's river, navigable for boats five miles inland.

A contract entered into in May, 1900, for the construction of a breakwater, at Black Point, on the western side of the bay, was completed September 27, 1900.

The breakwater consisted of a stone embankment, 160 feet in length and 7 feet in average height, between the shore and 'Black Rock'; a stone embankment, 89 feet in length and 18 feet in average height, in extension of 'Black Rock'; and 160 feet of cribwork 25 feet in width, with creosoted substructure and a talus on the seaward side sloping $1\frac{1}{2}$ to 1 from high water. The height of the cribwork over 15 feet of its width on the seaward side is 7 feet, and over 10 feet of its width on the inner side 3 feet 4 inches, above extreme high water. The depths, at extreme low water, at the inner and outer ends of the cribwork are respectively 6 feet and $16\frac{1}{2}$ feet. Spring tides rise 6 feet.

During a southerly gale in October, 1900, the outer section of stone embankment was nearly destroyed, the cribwork was slightly damaged and most of the stone in the talus on the seaward side of the cribwork was carried away.

Repairs and improvements were made in 1902, 1903, and 1904.

During the fiscal year ended March 31, 1907, \$2,125.74 was expended in repairing the stone embankment between the shore and 'Black Rock'; in placing additional stone in the talus on the seaward side of the cribwork extension, and in sorting and piling, at West Arichat, the creosoted timber required in the construction of a proposed 24 by 24 foot block, to be placed in 12 feet at low water, against the inner face of the cribwork extension.

7-8 EDWARD VII., A. 1908

NORTH EAST HARBOUR.

North East Harbour is a settlement of about 450 people, situated 15 miles south-west of Shelburne town. The people are chiefly engaged in the fishing industry and have to come to this place for their supplies, including salt, bait and fishing gear, and in coming here they very often, on account of the lack of proper landing facilities, lose much valuable time.

To give these people accommodation, the department began the construction of a wharf, during the spring of 1906, and in the fiscal year 1905-6, expended the sum of \$3,000 upon the same.

During the last fiscal year, the sum of \$999.85 was expended; there is still required \$500 additional to complete.

This work, when completed, will be 350 feet in length, constructed of pile trestle bents and is connected with the shore by a rock bank and semi-cribwork approach, 165 feet in length, 16 feet wide on top. The width of the pile wharf is 10 feet on top, with the exception of the last 50 feet, which is 40 feet wide and built in the shape of a 'T,' and has a height at the outer end of 22 feet and a depth of water of 8 feet at L.W.O.S.T. A portion of the top is all that required completion at the end of the last fiscal year.

Spring tides rise here 10 feet and neaps 8 feet.

PARKER'S COVE.

Parker's Cove, Annapolis county, is a small indentation on the southeast shore of the Bay of Fundy, fifteen miles northwest of Digby Gut, and seven miles north of Annapolis, the county town: the population of the settlement is about 250 people engaged in fishing and farming.

In 1833-4, the department constructed a small breakwater substantially built of round-log cribwork, stone-filled, 200 feet long, 23½ feet to 26 feet wide on top, and at the outer end 16 feet high, where at high tide there is a depth of about 11 feet of water.

In 1900-1, the department extended the breakwater, a distance of about, 101 feet, at a cost, by contract, of \$3,749. The new block is 26 feet wide on top, and from 16 to 19 feet high, substantially built of round-log cribwork, filled with ballast, well fendered, close-sheathed on the seaward side and outer end.

In 1901-2, the sum of \$73.50 was expended in placing a quantity of large stone on the eastern side of the breakwater, near its outer end, to prevent the waves from undermining the work.

In 1902-3, the breakwater was extended a further length of 130 feet, with an 'L' on the outer end, having a face-length of 82 feet. This work, which was built by contract, at a cost of \$10,212.60, is from 20 to 29 feet high, the stem 26 feet wide and the 'L' 30 feet wide on top. The landward side batters 1 in 6, while the eastward side is plumb and provided with a solid timber break, 4 feet 6 inches high. The extension was very strongly built of round-log cribwork, filled to the top with stone ballast, well fendered and bolted, and close-sheathed on the seaward face.

In 1903-4, the sum of \$1,191.10 was expended in rebuilding the upper 2 to 4 feet in height, by 25 feet in width, of the shoreward end (the older portion of the breakwater) and in protecting the foreshore on the eastern side of the work with large stone, to prevent the sea from undermining the new block.

In 1905-6, a contract was entered into in the sum of \$7,000, with Messrs. Thurston, Thurston and Durkee, of Yarmouth county, for the construction of a further extension of the breakwater. The new piece will be 99 feet long, 33 feet wide and from 28 to 34 feet high.

The work was closed down for the season on December 1, the extension being built to the full height, but lacking fenders, break and creosoted sheathing. Between December 1 and the close of the fiscal year, March 31, no work was done.

Spring tides rise about 30 feet.

Total expenditure in 1906-7, \$5,797.25.

SESSIONAL PAPER No. 19

PARRSBOROUGH—DREDGING.

Parrsborough is a town of about 2,800 people, situated on the Cumberland Basin, about 25 miles from the town of Springhill. Considerable lumber is shipped from this port, whilst it is also the shipping port for the Cumberland Coal and Railway Company.

Owing to the changed conditions of the shipping, requiring larger and deeper draught vessels, the depth of water in Parrsborough is not sufficient to accommodate requirements of these shipping interests. The depth of water at O.H.W.S.T. is 16 feet, whilst at low water the harbour is dry. To deepen this, Mr. Shewen, resident engineer at St. John, N.B., made the necessary survey, and a contract was executed in June, 1906, for the dredging of a channel, 2,100 feet in length, 100 feet wide, which, upon its completion, would increase the depth of water to 21 feet at H.W.O.S.T. The contractor for this work is Mr. Hugh MacDonald, of Sydney, and the amount of his contract is \$27,950.

This contract includes slightly over 33,000 cubic yards of spoil to be excavated, and also the construction and delivery of six scows.

During the last fiscal year, slightly more than 15,000 cubic yards were removed and the scows constructed and delivered. The work was shut down during the winter months because of the prevalence of ice in the harbour, but will be resumed as soon as spring opens.

Total expenditure during 1906-7, \$13,922.50.

PEGGY'S COVE.

Peggy's Cove, Halifax county, is situated on the east side of St. Margaret's bay, near its mouth, and distant, in a westerly direction, about thirty miles from the city of Halifax. The population consists of 150 people almost wholly dependent on fishing for a living.

The little harbour, which lies between granite rocks, is about 400 feet long, 60 feet in average width and from 7 to 9 feet in depth at L.W.O.S.T. At the mouth of the harbour, which is about 40 feet wide, and over a length of about 100 feet, were strewn some fifty or sixty boulders, varying in size from about 2 cubic feet to $1\frac{1}{2}$ cubic yards.

During the fiscal year 1905-6, the department expended the sum of \$597.61 in the removal of these rocks, and in 1906-7 a further sum of \$195.65 for the same purpose. Spring tides rise $7\frac{1}{2}$ feet; neaps, 6 feet.

PEREAUX.

Pereaux, King's county, is a rich and prosperous agricultural district, with a population of some 300 or 400 people, situated on the west side of the Basin of Minas, three miles north of Kingsport, and five miles south of Cape Blomidon. From Kingsport to Cape Blomidon is a thickly settled and fertile agricultural district.

In the fiscal year 1901-2, the sum of \$661.99 was expended in the partial construction of a pile wharf for the purpose of shipping fruit, farm produce, &c., and the landing of coal and general merchandise. It was satisfactorily completed in the year 1902-3, at an expenditure of \$1,329.96. The wharf is a pile structure, 180 feet long, 25 feet wide, and at the outer end 20 feet high, where at high water there is a depth of 17 feet.

During the winter of 1904-5, in the maritime provinces the severest on record, the whole structure became a mass of solid ice, which, in a series of exceptionally high tides, lifted many of the piles and destroyed the whole structure to such an extent as to render it practically useless.

In 1906-7, the sum of \$2,796.99 was expended in rebuilding the structure in block and span work. At the close of the fiscal year, the new work was not quite completed.

Spring tides rise over 40 feet.

7-8 EDWARD VII., A. 1908

PETITE RIVIÈRE.

Petite Rivière, Lunenburg county, is the centre of a thriving farming and lumbering district, situated about twelve miles southwest of the town of Bridgewater and six miles west of the mouth of La Have river. The village, which has a population of about 500, is situated at the mouth of a small river from which it takes its name. The nearest railway station is distant six miles, and the nearest harbour, at La Have, six miles distant.

A small harbour is formed by the channel of the river, which empties into a shallow bay through a sand beach. This channel is navigable for large row boats at high tide only, and the residents experience great difficulty in getting their supplies, which are discharged from schooners anchored in the bay. It is desired that this channel be improved so that small schooners can enter at high water.

During the fiscal year 1905-6, the department expended the sum of \$3,999.83 in purchasing material, &c., for the construction of a breakwater on the western side of the harbour, to prevent the accumulation of sand in the harbour and to act as a shear dam in confining the current of the river to a narrow channel, in order to create a scour and remove the sand at the entrance of the harbour.

In 1906-7, the sum of \$5,683.56 was expended in completing the work. It is 1,220 feet long, the first 900 feet 16 feet wide, and the outer 320 feet 20 feet wide. It is from 5 to 13 feet high, and rests upon mattresses of brush, from 20 to 30 feet in width and about 2 feet in thickness. A further extension, to increase its useful effect, will be undertaken in 1907-8.

Spring tides rise 6 feet, neaps, 5 feet.

PLEASANT BAY.

Pleasant Bay, Inverness county, is on the western coast of Cape Breton island, twenty-four miles north of Cheticamp and about midway between that place and Cape St. Lawrence.

A contract was entered into on January 29, 1906, for the construction of a wharf at Pleasant Bay for the sum of \$7,500. The contract was for a continuous cribwork structure, 210 feet in length and from 16 to 20 feet in width, with an 'L' at the outer end 20 by 20 feet, creosoted to half tide, fully ballasted and close-fendered on both sides and at the outer end.

During the year 1905-6, all the materials required in the construction of the wharf, with the exception of the ballast, were delivered. The contractor commenced the construction of the cribwork early in June, but up to the end of that month no work had been placed.

During the fiscal year ended March 31, 1907, the work under contract was completed and extra work costing \$150 performed. The extra work consisted in the construction of a bridge, on the right of way leading to the wharf, with brush and stone and frame work abutments, 12 feet long, 8 feet wide and 10 feet in height, placed 10 feet apart.

Total expenditure during 1906-7. \$7,835.

POIRIERVILLE.

Poirierville, Richmond county, commonly known as Lower D'Escousse, is a district on the northeastern coast of Madame island, on the southern side of the eastern entrance to Lennox passage, a strait separating the island of Madame from Cape Breton island.

On September 19, 1906, a contract was entered into, in the sum of \$7,575, for the construction of a public wharf. but up to March 31, 1907, the work had not been commenced.

SESSIONAL PAPER No. 19

The work under the contract is 340 feet in length and 20 feet wide, extending to 10 feet at low water, with an 'L' on the southern side of the outer end, 20 by 20 feet, and is to consist of blocks and spans, the former constructed of round timber with creosoted timber substructures.

Total expenditure during 1906-7, \$65.13.

PORTER'S LAKE.

Porter's Lake, Halifax county, is a long, narrow strip of fresh water, lying nearly north and south, and situated about the middle of Halifax county, or about fifteen miles east of the provincial capital. It is about eighteen miles in length, from a quarter to half a mile wide, and the water being of good depth for almost its entire length, it is navigable for vessels of 60 tons to the extreme head. The normal level of the lake is some 2 or 3 inches above high water ordinary spring tides, which on the coast here rise 6 feet, neap, 5 feet.

Up to about 1873, the outlet, which is directly into the Atlantic, through a gravel beach about 200 feet wide, was navigable for schooners drawing 6 feet of water, and a considerable trade was then done on the lake in the export of timber, lumber, cordwood, farm produce and fish. Since that time the outlet has been gradually and permanently filling up with accumulations of gravel, washed in by southerly and easterly storms. In order to maintain the outlet, to prevent the road along the margin of the lake from being flooded, and to admit fish into the lake, the following small expenditures have been made by the department :—

1881-2.....	\$ 200 00
1884-5.....	200 00
1889-90.....	200 00
1892-3.....	147 00
1897-8.....	100 00
1898-9.....	200 00
1899-1900.....	150 00
1902-3.....	49 99
1903-4.....	300 15
1904-5.....	160 40
1905-6.....	61 18
1906-7.....	38 71
	<hr/>
	\$ 1,813 43

These expenditures have resulted in but slight temporary relief, and no permanent improvement. The department, in 1900-1, expended the sum of \$8,262.44 in beginning the construction of a permanent channel through the neck of land 2,400 feet wide, separating the main body of the lake from the extreme head of Three Fathom harbour. In 1901-2 a further sum of \$5,987.24 was expended on the permanent outlet. In 1902-3, the sum of \$2,455.67 was expended on the permanent and \$49.99 on the temporary (old) outlet.

In 1904-5, the sum of \$4,248.67 was expended on the new or permanent outlet.

In 1905-6, the sum of \$968.68 was expended on the permanent outlet and \$61.18 on the temporary outlet.

In 1906-7, the sum of \$38.71 was expended on reopening the temporary outlet.

During the year 1905-6 the amount of \$199.92 was expended in beginning a new outlet at Graham's Head. The total expenditure to date is :

On permanent outlet.....	\$21,924 96
On temporary outlet.....	1,813 43
On new outlet.....	199 92
	<hr/>
	\$23,938 31

7-8 EDWARD VII., A. 1908

PORT GEORGE.

Port George, Annapolis county, is a village of some 300 to 400 people situated on the south shore of the Bay of Fundy, thirty-seven miles northeast of Digby Gut, forty-two miles southwest of Scott's Bay, nine miles southwest from Margareville and seven miles northwest from Middleton on the Dominion Atlantic Railway.

Some years before confederation the provincial government built a western breakwater and an eastern pier or wharf. The breakwater is 440 feet long, from 25 to 35 feet wide on top, and, at the outer end, where there is about 21 feet of water at H.W.O.S.T., it is about 25 feet high. It is built of round-log, stone-filled cribwork, the western or seaward face and outer end being close-sheathed.

The wharf, on the eastern side of the little harbour, is 205 feet long, 20 feet wide and 18 feet high at the outer end. It is built of round-log cribwork, and the outer end, on which is built a small lighthouse, is close-sheathed. In 1874, the harbour was taken charge of by this department, and in that and the following year, the sum of \$7,000 was expended in repairing and refacing the breakwater which was much decayed. In the autumn of 1888 the outer end of the breakwater was destroyed by a severe storm, 165 feet in length being wrecked, and an additional length of 30 feet being much injured. Before repairs could be made, a second storm destroyed the damaged portion, leaving 195 feet of the work a complete wreck and rendering the harbour practically useless.

In 1890-1, the destroyed portion of the work was rebuilt by contract.

Repairs were made in 1894 and in 1901.

In 1901-2, the sum of \$2,297.46 was expended in continuing the construction of the detached breakwater begun the previous year. The work thus extended measured 102 feet long, 32 feet high at the lower end and 26 feet at the upper, 20 feet wide at the top. It is plumb on the seaward face and batters 1 in 4 on the back.

In 1902-3, the sum of \$2,287.46 was expended in beginning the construction of an extension of 100 feet in length of this work.

In 1903-4, the sum of \$5,807.95 was expended in completing the breakwater begun in 1901, and in renewing the top of 200 feet in length of the main breakwater a height of from 3 to 5 feet. The detached breakwater is 200 feet long, 20 feet wide on top and from 17 to 32 feet in height. It is very strongly built of round-log cribwork filled with stone.

In 1904-5, the sum of \$199.50 was expended in repairs.

In 1906-7, the sum of \$330.83 was expended in the purchase of timber for the purpose of rebuilding a portion of the shoreward end of the breakwater.

Spring tides rise 30 feet

PORT HOOD HARBOUR.

The harbour of Port Hood is on the west coast of Cape Breton island, about twenty miles to the northward of the northern entrance to the strait of Canso.

The harbour was formerly a secure one, Smith island, which forms its west side, having been connected with the mainland by a range of sand hills. In 1839 the sea made a breach through this protection work; the opening, at first narrow, was enlarged by the tidal currents, with increasing rapidity, until it was entirely swept away. The harbour is now unsafe during northerly gales, except in a small cove on the east side of Smith island.

In March, 1902, a report was submitted on the closing of the northern entrance, in which the estimated cost of work suggested varied from \$482,000 to \$291,000, according to design and location.

SESSIONAL PAPER No. 19

The amount appropriated for 1903-4 (\$20,000) was for expenditure by day labour in constructing a portion of a breakwater of brush and stone with stone talus and covering. Operations were commenced in May and were in progress at the close of the fiscal year ended June 30, when the expenditure amounted to \$2,968.85. This sum was expended in procuring materials and in constructing a work of brush and stone 28 feet in width on top, at high water level, extending from the mainland 330 feet to 3 feet at extreme low water.

In 1904-5, the sum of \$19,952.44 was expended in extending the brush and stone work 470 feet (800 feet from the mainland) to 6 feet at extreme low water, and in placing a talus (on both sides) and a covering of quarried stone.

Of the amount appropriated for 1905-6, the sum of \$9,999.84 was expended, \$2,984 in March and April in procuring materials and the balance in July, August and September, in extending the brush and stone work 188 feet (988 feet from the inner end) to 9½ feet at extreme low water, and in placing a talus (on both sides) and a covering of quarried stone.

Operations were resumed June 1 and continued up to October 31. The appropriation for the fiscal year ended March 31, 1907, was expended in June, July and August, in extending the brush and stonework 309 feet, 988 to 1,297 feet from the inner end. Of the 309 feet, the inner 60 feet were completed up to 2 feet above high water, and protected with quarried stone on each side and on top; 191 feet were up to within 1½ feet of low water with quarried stone on the seaward side, and 58 feet of outer brush work were up to 5 feet below water.

There was also expended in August, September and October an additional sum of \$1,814.77 in placing quarried stone over the 249 feet of work left unprotected.

Total expenditure during 1906-7, \$20,099.53, including \$5,099.15 for dredging.

PORT HOOD WHARF.

Port Hood, the skire town of Inverness county, is on the west coast of Cape Breton Island, twenty miles north of the northern entrance to the strait of Canso.

A pier, on the east side of the harbour, commenced by the provincial government in 1865, was originally 550 feet in length and 24 feet in width, with an 'L' on the south side of the outer end 100 feet in length and 25 feet in width. It came under the charge of the federal government in 1871, since which time extensive repairs and renewals have been made, including the construction of a new block, 125 by 25 feet, at the outer end in 1873, the construction of a block 50 by 32 feet at the south end of the 'L' in 1888-9; and the construction of a block, 71 by 24 feet, at the outer end in 1889-90. The old provincial government work was of square timber close-faced, the additions and parts reconstructed by the department are of round timber laid open-faced. The pier has been protected, on the seaward side, at the outer end, and on the south end and inner side of the 'L,' by close-piling, and on both sides to within 74 feet of the outer end by a stone talus.

In 1905-6, the sum of \$600 was expended in renewing the floor-stringers and covering near the inner end, and in renewing close-piling and ballast at the outer end.

During the fiscal year ended March 31, 1907, the sum of \$1,500.05 was expended in raising, repairing and close-piling the outer end of the wharf; in placing quarried stone in the talus on the seaward side, and in general repairs to the seaward face.

PORT LATOUR.

Port Latour, Shelburne county, is a fishing and farming settlement, situated twenty-five miles, southwest of Shelburne town. Population, 700.

7-8 EDWARD VII., A. 1908

The harbour is about four miles long north and south, and two miles wide east and west, with a depth of water of from five to seven fathoms. Spring tides rise here 10 feet, neaps 7 feet. (For further description see report 1905-6.)

During 1905-6, we expended \$5,307.84 and, during the last fiscal year, \$4,180.78 in constructing a cribwork extension to this work.

It is now completed, though not quite full of ballast at one portion of it, but the season was so late that to procure ballast then would cost two or three times more than the stuff was worth, and I also felt confident that there was sufficient ballast to keep the breakwater from incurring any serious damage in its condition.

This breakwater consists of two portions, one 478 feet in length and 25 feet wide on top with a height of 19 feet at the outer end, consisting of solid stonework and the other of the usual continuous cribwork style of construction, 235 feet in length, 26 feet high at the outer end and 20 feet wide on top. This makes the breakwater 713 feet in length over $\frac{3}{4}$ of which is of permanent material.

This rock work was built in sections of 25 to 35 feet in length, the inside and outside face of which are constructed of large stones from 4 to 6 feet thick, and the insides 15 to 17 feet in width filled in with smaller rocks, and the whole top inside these walls is neatly gravelled with from 6 to 12 inches of good, coarse gravel.

PORT LORNE.

Port Lorne, Annapolis county, formerly called Port William or Marshall's Cove, is situated on the Bay of Fundy, thirty-two miles northeast of Digby Gut, and six miles northeast from Paradise station, on the Dominion Atlantic Railway. The settlement comprises about 300 people, engaged in fishing and farming.

The breakwater was begun in 1835 at the joint expense of the inhabitants and the provincial government, the outlay on the work up to 1867 being \$16,000. The first work done by this department was in 1873-4, when the breakwater was extended a length of 67 feet. In 1882-3-4, the work was further extended a length of 100 feet, width 35 feet and height 25 feet. The new block was built close-faced with square timber both inside and outside, and provided with a break 4 feet high. During the next few years several repairs were made. In 1897-8 a reinforcing block was built on the seaward face and outer end of the breakwater, 78 feet long, 37 feet high and 13 feet wide, in addition to other important repairs made.

In 1900-1 the sum of \$2,176 was expended in important repairs.

In 1902-3, the sum of \$1,198.48 was expended in rebuilding a portion of the shore end of the seaward face of the breakwater, 50 feet long, 15 feet wide and from 6 to 15 feet high, with solid stone-filled cribwork; also in rebuilding a portion of the break on the shore end, 33 feet long, 8 feet wide and 6 to 10 feet high.

In 1904-5, the sum of \$999.93 was expended in taking down and rebuilding a portion of the shore end of the breakwater.

In 1905-6, the sum of \$757.99 was expended in taking down and rebuilding a piece of the middle of the length of the breakwater, which was much dilapidated.

In 1906-7, the sum of \$742.96 was expended in taking down and rebuilding a dilapidated portion of the work, 80 feet in length, 24 to 30 feet wide, and from 14 to 19 feet high.

The work was transferred to the control of the Department of Marine and Fisheries on June 12, 1889.

Spring tides rise 30 feet.

PUGWASH.

Pugwash is a village of about 1,100 people, situated on the Northumberland strait, about ten miles northwest of Wallace.

In 1897, the department constructed a cribwork wharf, which, in conjunction with the old railway wharf, is used for loading large steamers engaged in the transportation

SESSIONAL PAPER No. 19

of deals. By this means, some 25,000,000 feet of lumber are annually shipped from this port, so that during the season of navigation these two wharfs are practically monopolized by these interests. As Pugwash harbour is one of the best harbours on the north side of Nova Scotia, much shipping by smaller vessels takes place, but owing to the large steamers using the other wharfs the smaller shipping interests are much handicapped and their development greatly injured or retarded. As the country surrounding Pugwash is somewhat populous and fertile, and as much important fishing interests are also adjacent, one could easily see that facilities for the transportation of the products of this district were much needed; therefore it was decided to construct an additional wharf at this place, largely for the accommodation of these smaller interests.

A contract let early in June, 1906; amount of contract is \$11,495. The work was put in hand as soon as possible and was completed within the fiscal year.

The work consists of a rock bank approach, 30 feet in length, 24 feet on top and a height of 10 feet at the outer end; secondly of a solid continuous log faced and stone filled cribwork stem, 280 feet in length, 20 feet wide on top. With the exception of the last 28 feet, which is 40 feet wide on top and has a height at the outer end of 33 feet with a depth of water, at its outer end, at L.W.O.S.T., of 23 feet. From a point 3 feet below H.W.O.S.T. to the bottom of the work, this work is sheathed with 4-inch creosoted loblolly pine timber. Spring tides rise here $6\frac{1}{2}$ feet; neaps, 5 feet.

Expenditure during 1906-7, \$7,649.

RAY'S CREEK.

Ray's Creek, Annapolis county, Upper Granville, is a thickly settled and very rich farming district, situated on the north bank of the Annapolis river, some four miles below Bridgetown and about ten miles above Annapolis. Within a radius of three miles there is a population of 800 to 1,000 people. The nearest public wharf is at Granville Centre, six miles below, built by the department in 1902-3. There are two small dilapidated private wharfs, one a mile and a quarter above, and the other one mile below, but they are small, inconvenient and out of repair.

For the convenience of local trade, the department, in 1905-6, expended the sum of \$1,500.65 in beginning the construction of a public wharf of pile-work at Ray's Creek, about the centre of the district. The work done under the expenditure was the construction of an approach and the purchase and delivery of the whole of the materials.

In 1906-7, the sum of \$1,189.85 was expended in completing the work, which consist of a pile-wharf, 225 feet long, the shoreward part being 140 feet in length, 22 feet wide, by an average height of 6 feet, the outer portion being 53 feet wide and from 6 to 22 feet high. Along the face, at H.W.O.S.T., there is a depth of 20 feet of water.

Spring tides rise about 30 feet.

RIVER BOURGEOISE.

Bourgeoise inlet, Richmond county, commonly called River Bourgeoise, is on the northern side of the eastern entrance to Lennox Passage, (a strait connecting St. Peter's bay with the strait of Canso), and about four miles to the westward of St. Peter's canal at the head of St. Peter's bay. It extends inland three quarters of a mile and then branches east and west. The depth, at low water, at the entrance, is 12 feet, and over the greater part of the area inside from 12 to 18 feet. Spring tides rise $5\frac{1}{2}$ feet.

In 1905-6, a wharf on the northern side of the inlet, nearly midway between its east and west extremities and nearly opposite the entrance, known as 'Boyd's wharf,' was purchased by the department and the work of reconstructing and extending it

7-8 EDWARD VII., A. 1908

undertaken. The work proposed included raising and strengthening 'Boyd's wharf,' which is 49 feet in width and extending it 24 feet, with creosoted pile-work, to 9½ feet at extreme low water.

During the fiscal year ended March 31, 1907, the sum of \$853.60 was expended in procuring all the timber required for reconstructing and extending the wharf, with the exception of the creosoted timber for side-piling the old work and for piling in the extension, and in nearly completing the reconstruction of the old work.

ROUND HILL.

Round Hill, Annapolis county, is a thickly settled and very prosperous farming district, situated about eight miles east of the town of Annapolis. There is a station on the Dominion Atlantic Railway, and the village, with a population of about 500 people, is situated from a quarter to half a mile to the south of the Annapolis river, which is navigable at high water for large vessels up as far as Bridgetown, some seven miles further up.

Some thirty years ago, a small wharf of cribwork was built by private enterprise, but it fell into disuse some fifteen years ago. At the present time all that remains of it consists of a few logs and a little pile of ballast.

For the benefit of local trade the department, in 1905-6, expended the sum of \$2,000.14 in the construction of a public wharf. At the close of the fiscal year the work was about two-thirds completed. It consists of a pile-work stem, 76 feet long by 25 feet wide, from 5 to 10 feet high, terminating in a substantial block of stone-filled cribwork, 75 feet long, 35 feet wide and from 16 to 22 high, founded on piles, driven to hard bottom and cut off level with the mud. Along the face of the wharf at high water there will be about 16 feet of water.

In 1906-7 the sum of \$1,997.41 was expended in the construction of the wharf, which, at the close of the fiscal year, was not quite completed.

SCOTCH COVE.

Scotch Cove, Victoria county forms the southeastern part of Aspy bay, and is about three-quarters of a mile south from White Point, which is on the southern side of the entrance into the bay.

The sum of \$10,000 was voted for expenditure during 1906-7, towards the construction of a breakwater for the protection of fishing boats and small craft, and on February 6, 1907, a plan and specification for the work proposed, estimated to cost \$30,800, were submitted to the department for approval.

The proposed breakwater is 320 feet in length, and will extend to 19 feet at low water; with the exception of the inner end, for a distance of 40 feet, which is to be of stone and 16 feet wide on top, it is to consist of cribwork with creosoted timber sub-structure, 20 feet wide for a distance of 80 feet, 24 feet wide for a further distance of 80 feet, and 30 feet wide for the remaining distance of 120 feet. The faces of the cribwork are to be constructed of square timber, laid open-faced, with ties of round timber, and the work is to be fully ballasted. The seaward face, the outer end, and the inner face for a distance of 30 feet from the outer end are to be close-sheathed, and a brush mattress, loaded with stone, is to be placed along the seaward face of the work, for a distance of 200 feet from its outer end.

Up to March 31, 1907, tenders for the construction of the work had not been called.

Expenditure during 1906-7, for preparation of plans, &c., \$32.78.

SCOTT'S BAY.

Scott's Bay, King's county, is on the south side of Minas channel, Bay of Fundy, between Cape Split and Baxter's harbour. The population of the settlement, within a radius of a couple of miles, is about 500.

SESSIONAL PAPER No. 19

In 1878 the department built a block of cribwork, 50 feet long, 30 feet wide and about 20 feet high, connected with the shore by a double row of close piling, 210 feet long, from the southeast corner of the block; the cribwork was built of close-faced work, well fendered and ballasted. The work was located on the west side of Jess creek, and formed a harbour or shelter for vessels during southwest storms.

As it had no floor, much of the ballast has been removed, presumably for ballasting schooners. Both the block and close piling are more or less dilapidated, 30 in length of the close-piling and the upper 15 feet in height of the block being totally destroyed. The expenditure on this block and the close pile work by department from 1867 to 1882 was \$3,000.

In 1900-1, the department expended the sum of \$500 in building two blocks of cribwork, one on either side of the mouth of the creek. The northern block is 115 feet long, 6 to 8 feet high and 10 feet wide; also in extending the south breakwater by a block 75 feet long, 10 to 12 feet high and 12 feet wide. Some minor repairs were also made to the older portion of the northern breakwater.

In 1903-4, the department expended the sum of \$1,342.52 in further improvements.

In 1904-5, the sum of \$999.09 was expended in constructing a new block of cribwork, 57 feet long, 20 feet wide and 18 feet high, in extension of the breakwater on the south side of the mouth of the stream; a small cross-block on the same work, 50 feet long, 10 feet wide and 8 feet high, also a small cross-block on the shore end of the north breakwater, 50 feet long, 10 feet wide and 12 feet high, together with fenders and a top course of logs on the portion of the new work built last year on the south side of the creek.

In 1905-6, the sum of \$2,089.96 was expended in building an extension to the north breakwater. The new block is 70 feet long, 20 feet wide and 20 feet high, well filled with ballast and close-sheathed on the northern side and outer end.

In 1906-7, the sum of \$2,794 was expended in extending the south breakwater by a new block of substantial cribwork, 60 feet long, 28 feet wide and 26 feet high. 150 feet in length of the shoreward portion of the south breakwater was also close-sheathed, to prevent undermining by the brook which issues alongside. The north breakwater was also raised from 1 to 4 feet, to make up for settlement, and new floored.

SKINNER'S COVE.

Skinner's Cove, Pictou county, is on the western side of Northumberland strait, about four miles east of Cape John, and about twenty miles northwest of the entrance to Pictou harbour. A pond at the head of the Cove is separated from the waters of the strait by a beach of sand 250 feet in width.

On January 5, 1905, a contract was entered into for opening a channel through the beach and for the construction of protection works for \$10,950.

The works under contract included the excavation of a channel 15 feet in width at bottom and 425 feet in length, to a depth of $2\frac{1}{2}$ feet at low water, and the construction of piers of brush, stone and piles, 304 feet in length and 15 feet in width on each side, and of a cribwork block, 40 feet in length and 20 feet in width, with creosoted substructure at the outer end of each pier. Spring tides rise 7 feet.

At the close of the year 1904-5, the outer blocks were completed with the exception of placing the cap-timbers and upper fenders and sheathing, and 40 piles of inner work were in place.

In 1905-6, the work under contract was completed with the exception of part of the dredging, and some extra work was performed, including: the extension of the piers on each side of the channel inwards 40 feet, and the placing of additional close-sheathing for a length of 144 feet on the seaward side and at the inner end of the western pier.

The work under contract was completed on the 1st of August, 1906.
Total expenditure during fiscal year of 1906-7, \$1,759.91.

7-8 EDWARD VII., A. 1908

SYDNEY QUARANTINE.

The quarantine station in Sydney harbour is on the southern arm, near Keating Point and about three-quarters of a mile from Point Edward, at the eastern extremity of land lying between the south and west arms.

A wharf built by the Department of Marine and Fisheries and repaired and extended in 1892-3 consists of a block and span structure extending 148 feet to 8 feet at low water. Spring tides rise 5 feet.

In 1903-4, the sum of \$1,551.52 was expended in procuring creosoted timber and other materials to be used in repairing and extending the wharf.

The old wharf having fallen into such a dilapidated condition as to render its reconstruction and extension inadvisable, the appropriation for 1904-5 was made for expenditure in constructing a new wharf, using materials procured in 1903-4.

During the year, \$1,667.66 was expended in procuring the additional materials required in the construction of a wharf to extend 173 feet to 10½ feet at low or 15½ feet at high water; consisting of an inner and 4 intermediate blocks, 14 feet in width, and an outer block 20 feet in line of work by 40 feet, and in constructing the inner and three intermediate blocks.

In 1905-6, the sum of \$1,098.97 was expended in completing the work in progress in 1904-5.

During the fiscal year ended March 31, 1907, the sum of \$249.19 was expended in procuring the timber required for raising the inner end of the inner block, and in close-fendering the outer end of the wharf.

TATAMAGOUCHE.

Tatamagouche, Colchester county, is a seaport town on the Northumberland strait, thirty miles from Truro. It is also an important station on the Intercolonial short line running from Oxford Junction to Pictou.

During the fiscal year 1905-6 the department expended the sum of \$1,116.19 in beginning the construction of a cribwork wharf.

In 1906-7, the sum of \$810.27 was expended in completing the work. It consists of a cribwork wharf built over and around an ancient structure. The new work is 100 feet long, 62 feet wide and at the outer end 14 feet high, with a depth of water of 12 feet.

Spring tides rise 6 feet; neaps, 5 feet.

TONY RIVER.

Tony River, Pictou county, is a small stream emptying into the Northumberland strait about midway between Pictou harbour and Amet Sound.

The appropriation for 1905-6 was for expenditure in opening a new channel through the beach obstructing the entrance and towards the construction of the necessary protection works. During the year, the sum of \$4,253.55 was expended in procuring the timber and iron required in the protection works and in construction. On June 30 the protection work on the east side was completed with the exception of placing the floor stringers, covering and fenders and 95 feet of the substructure of the work on the west side was in place and ballasted.

In 1907, \$2,103.11 was expended in July and August in completing the channel and protection works.

The protection works constructed on the east side and on the west are respectively 206 and 146 feet in length, and 14 feet in width on top, except the outer 32 feet of the work on the east side which are 20 feet in width. The piers are 35 feet apart and are each 10 feet in height from 1½ feet below to 8½ feet above extreme low water. The depth, at extreme low water, in the channel between the piers and outwards for a distance of about 50 feet is 1½ feet.

SESSIONAL PAPER No. 19

TRACADIE.

Tracadie harbour, Antigonish county, is on the southern shore of St. George's bay, eleven miles west from the northern entrance to the strait of Canso.

The works here consists of a breakwater on the eastern side of the entrance of the harbour, and of a breastwork in extension of the breakwater inward and along the beach to the southward of it, to prevent scouring and undermining of the bank by the tidal currents.

The breakwater extends 120 feet out to the edge of the channel, thence along the line of channel, outwards, 100 feet. The latter section is constructed on the remains of old work; it is 16 feet wide for a distance of 64 feet and 20 feet wide over the outer 36 feet, and is constructed of round timber with creosoted timber substructure.

In 1905-6, the sum of \$1,199.57 was expended in the reconstruction of the outer 36 feet of the breakwater, which had been carried away down to low water.

During the fiscal year ended March 31, 1907, the sum of \$449.97 was expended in repairs to the breakwater including levelling up the inner 64 feet of the outer section, the renewal of some covering and fenders and reballasting where required.

WALLACE.

Wallace is a scattering settlement, situated on Wallace bay, which bay runs inland a distance of eleven miles from Malagash Point. The people, who number about 1,000, are engaged in farming, fishing and quarrying.

The village of Wallace is situated on the south side of this bay, whilst on the north side of said bay, the settlements of North Wallace, Fox Harbour and Gulf Shore are located. Prior to confederation, the Nova Scotia government constructed a small wharf on the north side of this harbour for landing purposes, which wharf has been repaired several times by the department since confederation.

In the year 1897, the department constructed another wharf on the south side of the harbour. A steam ferry was established between these two wharfs, and a channel from the heads of these wharfs to the main harbour channel was dredged, so that ferriage between the two sides of the harbour could be conducted at all times of tide. This dredging soon filled up and in the year 1905, we began operations, having in view the extension of both of these wharfs to the main harbour channel. In the fiscal year 1905-6, we expended \$10,193.82; in the fiscal year 1904-5, we expended about \$4,850, and during the last year we expended \$2,500.50. This work is practically completed.

We extended the wharf on the north side 1,440 feet, 1,420 of which consists of pile trestle bents, situated 10 feet apart with a width of 16 feet on top; the last 20 feet is 40 feet wide on top and is constructed of round logs, stone filled cribwork.

The south wharf was extended 223 feet with a width of 20 feet on top, and a height of 14 feet at the outer end. This extension is constructed of continuous round log, stone filled cribwork, well fastened and fendered. Solid cribwork was used in this extension because it was located in the position of the old dredging, which cut had completely filled up with a soft mud or silt, which material would not support piles, it being so soft that our cribwork settled in it from 4 to 6 feet.

Spring tides rise here from $6\frac{1}{2}$ to 7 feet; neaps, 5 feet.

WEST ARICHAT (BREAKWATER.)

West Arichat, Richmond county, is a small but safe harbour on the west coast of Isle Madame, sheltered from the south and west by Creighton island and by a breakwater between it and Isle Madame.

The breakwater is 1,211 feet in length and 24 feet in width, of round timber, open-faced and fully ballasted. The top of the covering is 11 feet above the bottom which dries at low water, except near a 25 foot opening, 588 from the west end.

In 1904-5 and 1905-6, the sum of \$1,486.46 was expended in renewing the floor-stringers and covering in places, and in repairs on each side of the opening, including

7-8 EDWARD VII., A. 1908

repairing and strengthening the work on the west side and reconstructing a portion of the work on the east side.

During the fiscal year ended March 31, 1907, the sum of \$254.27 was expended in procuring the materials required for renewing the floor-stringers of 308 feet of the breakwater, and for renewing the close-fendering in places, in placing all the materials, except 45 floor-stringers and 10 fenders.

WEST ARICHAT WHARF.

West Arichat, Richmond county, is a large settlement on the south side of Madame island, about three miles to the westward of the town of Arichat.

The harbour is easy of access and perfectly safe, being sheltered from the south and west by Creighton island and by the breakwater between the island and the mainland. On August 28, 1905, a contract, in the sum of \$5,275 was entered into for the construction of a wharf at Bosdet point, on the northern side of the entrance to the harbour.

The work under contract consists of a block and span wharf, 88 feet in length and 20 feet wide, extending to 15 feet at low water, with an 'L' on the eastern side of the outer end, 28 feet long and 24 feet wide; and of a cribwork approach, 300 feet in length and 16 feet wide, on top of the beach, to connect the wharf with the public road. The blocks in the wharf are to be built of round timber, with creosoted timber substructure, properly ballasted and fendered, and the outer faces of the outer block are to be close-sheathed between the fenders.

The work of construction was commenced early in June, 1906, and by the end of that month the cribwork approach was completed.

During the fiscal year ended March 31, 1907, owing to the delay in the delivery of the creosoted timber required, which did not arrive until the middle of November, and the stormy weather which sets afterwards, no progress was made with the work.

Expenditure in 1906-7, \$2,427.50.

WEST HEAD, CAPE SABLE ISLAND.

This headland is the most westerly point on Cape Sable island, and is situated about two miles from Clark's Harbour, and at the southwestern end of Barrington passage. It is an important fishing section on this island. Owing to its situation it would prove to be the most convenient and easiest of approach for coasting steamers of the several possible ports of call on this island. However, as it lies in such an exposed position, it is necessary to construct a wharf, which not only will accommodate the shipping but will also be a breakwater, and thus adequately protect whatever shipping may be loading or discharging along its sides.

The department, during the fall of 1906, began the construction of a breakwater at this place, and during the present fiscal year will probably complete the same. The amount expended during the last fiscal year was \$3,437.27. For this amount, the approach to the wharf, 95 feet long, 24 feet wide on top and 10 feet high at the outer end, and 60 feet of the cribwork were constructed, and we had on hand at the end of the fiscal year a little more than half the material necessary to complete the remainder of the work.

The proposed work when completed will consist of a rock bank approach, 95 feet long, 24 feet wide on top and 10 feet high at the outer end; the wharf proper will be 210 feet long, 20 feet wide on top, with the exception of the last 40 feet, which will be 50 feet wide on top. There will be from 13 to 15 feet of water at the outer end at L.W.O.S.T. The work is constructed of continuous cribwork of the usual type. Spring tides rise here 11 feet and neap $8\frac{1}{2}$ feet.

SESSIONAL PAPER No. 19

WEST QUODDY.

West Quoddy, Halifax county, is a scattered settlement of about 300 people, situated on the south coast of Halifax county, eighty miles east from the city of Halifax and five miles west of Salmon river.

During the fiscal year 1905-6 the department expended the sum of \$366.75 in the purchase of material for the construction of a pile wharf. In 1906-7 the sum of \$2,487.63 was expended in building the wharf. It is a pile structure, 211 feet long, 25 feet wide, and having an ell on the outer end, giving a face length of 50 feet, along which, at L.W.O.S.T., there is 13 feet of water. The approach to the wharf is a stone bank, 100 feet long, 25 feet wide and from 1 to 6 feet high. A freight shed, 12 feet by 16 feet, was built on the ell for the convenience of local shippers and merchants.

Spring tides rise $6\frac{1}{2}$ feet; neaps, 5 feet.

WEST RIVER, SHEET HARBOUR.

West River, Sheet harbour, Halifax county, is situated on the Atlantic coast of Nova Scotia, in the eastern part of Halifax county. The village, which surrounds the harbour, contains a population of about 600 people, and is a thrifty and prosperous community engaged in farming and fishing. The harbour is one of the finest in Nova Scotia, being of considerable extent and having an abundant depth of water. It runs inland about six and a half miles to Jarred's Point, where it divides into two arms, receiving respectively the waters of the East and West rivers.

During the fiscal year 1905-6, the department expended the sum of \$2,205.15 in building a cribwork and pile-wharf, at the mouth of the West river.

In 1906-7, a further sum of \$1,298.44 was expended in completing the work. The wharf consists, first, of a stone bank approach, 50 feet long, 25 feet wide and from 2 to 8 feet high. Second, pile-work, 141 feet long, 21 feet wide and from 8 to 20 feet high, the pile-bents being 10 feet apart. Third, substantial cribwork, 40 feet long, 25 feet wide and 20 to 22 feet high, with an ell 61 feet long and 20 feet wide, giving a face-length of 86 feet, along which, at L.W.O.S.T., there is 15 feet of water.

Spring tides rise 6 feet; neaps, 5 feet.

WEYMOUTH.

Weymouth, Digby county, the second largest town in the county, with a population of 1,200 people, is situated twenty miles southwest from the town of Digby. It is on the Sissiboo river, two miles from its mouth. Some four or five millions feet of lumber are annually shipped to South America and other ports, and a considerable trade is done.

In 1905-6, the department expended the sum of \$650.01 in constructing, in the public dock on the north side of the river immediately below the highway bridge, a pile-work inclined boat-slip, 50 feet long, 12 feet wide and from 3 to 5 feet high, with a stone bank approach 50 feet long and from 1 to 5 feet high. An old block of cribwork, which obstructed the entrance to the public dock, was partially removed.

In 1906-7, the sum of \$371.20 was expended in completing the removal of the obstructing block of cribwork.

WOLFVILLE.

Wolfville, King's county, is a town of about 2,000 inhabitants situated on the right bank and near the mouth of the Cornwallis river, which issues into the Basin of Minas, at its southwest corner. It is an important station on the Dominion Atlantic Railway, half way between Annapolis and Halifax, sixty-six miles from Annapolis and seven miles east of Kentville, the county town of King's.

7-8 EDWARD VII., A. 1908

In 1900-1, the department, at a cost of \$6,360.50, built, by contract, a public wharf on the right bank of the river, near its mouth, at a distance of about half a mile from the town. The approach consists of earth-work, an embankment 144 feet in length, 25 feet wide and of an average height of five feet. The wharf itself, which was substantially built of pile-work, was 152 feet long, 36 feet wide, including an inclined slip on the south side, 10 feet wide. It had an ell on the outer end, 82 feet long, giving a total face length on the river channel of 116 feet; the ell was 40 feet wide and from 48 to 49½ feet in height along the face, giving a depth of water, at H.W.O.S.T., of about 46 feet. At L.W.O.S.T. the river channel carries a depth of from 4 to 5 feet of mostly fresh water.

In 1902-3, the channel of the river moved shorewards, owing to erosion, a distance of some 20 to 30 feet, causing the two outer rows of piles of the wharf to lose more than half their hold in the sand and mud. In consequence of this, it became necessary to build cribwork in the spaces between the two outer rows of piles, at the end of the ell and at the opposite end of the wharf alongside the inclined slip. This mode of treatment being insufficient, and the scour continuing, it was decided to remove the outer 20 feet in width for the whole 116 feet in length of the wharf and rebuild it on the inner side of the ell. The work was begun on October 1, 1903, and vigorously carried on until December 24, when, owing to the severity of the weather, and the rapidly accumulating ice, operations were suspended.

The winter of 1903-4 was the severest known for a great many years. Ice formed in and around the piles of the wharf to a greater weight and thickness than had been known since the wharf was built. The floating power of the ice, added to the reduced hold of the piles in the bottom from the erosion of the channel caused the whole ell to be lifted up by an exceptionally high tide, on March 3, 1904, to a height of from 5 to 8 feet. A few days later the whole outer portion of the wharf, including the ell, was carried away and destroyed.

In 1903-4, the sum of \$1,768.89 was expended in above alterations and improvements, and, after the destruction of the wharf in saving such of the timber as was possible.

In 1904-5, the sum of \$78.80 was expended in saving and booming old timber from the destroyed pile-wharf, and the sum of \$2,563.41 in beginning the construction of a substantial cribwork wharf in its place. At the close of the fiscal year the work was about one-third completed.

In 1905-6, the sum of \$4,310.13 was expended in completing the construction of a new wharf of cribwork in place of the old one of pilework destroyed by ice. The wharf is a solid block of cribwork, with a stem 50 feet long by 28 feet wide and from 14 to 29 feet high. The ell on the outer end, is 100 feet long, 28 feet wide, and 29 feet high along the whole face, where at high water, there is 25 feet of water. Along the front of the ell there has been built a platform 110 feet long and 25 feet wide, with its top 29 feet below the floor of the wharf, for the purpose of permitting vessels to lie at the wharf during low water. The platform is built of piles firmly driven, well braced and capped with 10 by 10 caps.

In 1906-7, the sum of \$224.68 was expended in filling with brush and stone the spaces between the pile-bents, forming the bed for vessels to lie on.

Spring tides rise 48 feet; neaps, 40 feet.

WRECK COVE.

Wreck Cove, Victoria county, is at the mouth of the brook of the same name, on the northeast coast of Cape Breton island, twenty miles north from St. Ann's harbour and ten miles south from South bay, Ingonish.

A landing place for boats near the mouth of the brook was rendered unsafe by the diversion of the stream and the opening of a second outlet.

During 1890-1, the sum of \$700, together with \$200 paid by the locality, were expended by the department in the construction of a brush and stone dam, to confine the

SESSIONAL PAPER No. 19

stream to its old channel and to restore the landing place to its original condition. The improvement proved successful, but as the stone in the dam had been disturbed in places and settled in others, permitting of the water during freshets to run over the low portions of the dam, during the fiscal year ended March 31, 1907, the sum of \$500 was expended in raising and repairing the dam, and in extending it a distance of 100 feet; the course of the brook was also straightened above the dam by cutting away a point of the bank which threw the force of the water on to the dam.

PRINCE EDWARD ISLAND.

ANNANDALE.

Annandale pier, King's county, is situated on the north side of Grand river, near its entrance into Boughton Bay, and consists of a shore abutment or approach, 300 feet long by 22 feet wide, and a pier head, 140 feet long by 36 feet wide, fronting on the channel, where a depth of 7 feet at low water or 12 feet at H.W.S. tides is carried.

The approach, excepting on a short span of 18 feet, which is floor stringered and planked over, is constructed with sides of close-faced timber work, filled in between with brush, stone, gravel and clay, latter forming roadway. The pier head is partly formed of cribwork, partly of pile bents, this latter being about outer half, which is capped, all of it being floor stringered and planked over; the face and ends of the pier head are close piled.

The work is one of the Prince Edward Island piers, control of which was assumed by the Dominion government in 1883-4, when being an old structure and much out of repair, and, as it is greatly exposed to the destructive ravages of the teredo, it has since required some repair almost yearly, to keep it in a passable state for traffic.

During the past season, it was found that the entire reconstruction of the pier head was necessary, as well as other general repairs to the structure and this was effected, during the past summer and fall, at a cost of \$2,300. New bearing piles, caps, &c., were put in the bents; floor stringers, planking, &c., were renewed all over of pier head; its sides and ends were again close piled, after first putting in, for support of the walings, creosoted piles at about 5 feet centres, every fifth pile in the close piling being as well creosoted. New timbers were also put in on the west side of the roadway approach, besides making all other repairs required to put the structure in good and serviceable condition, and so as not likely to require repair for years.

BAY FORTUNE.

Bay Fortune, King's county, is situated on the south side of Rollo Bay, on the east coast of the island, and about five miles southwest from Souris, the eastern terminus of the Prince Edward Island Railway.

To improve the channel leading to the wharfs, situated on each side of the Bay Fortune river, the provincial government, some years ago, built a short breakwater on the eastern side of the mouth of the river, so as to contract the channel and thus, by increased scour, deepen the water over an obstructing sand bar at the entrance.

During 1892-3-4, the department extended the breakwater, repaired the inner or original work and connected it with the wharf. The work had a length in all of 850 feet, a width, for half its length, of 12 feet, and for the remainder, 20 feet, except the outer 20 feet, which is 40 feet wide. Considerable benefit is said to have resulted from the work, improvement having been made in the depth of water carried over the bar, and a larger class of vessels thus being able to enter.

During 1904-5, a brush and stone beach protection work was built northerly along the beach, from the inner end of the breakwater, for a length of 500 feet, where danger existed for a new channel being formed. Some wash and settlement occurred in this work, and its repair was effected during the past fall, at a cost of \$49.75, the work done consisting in making up the low places with brush and stone.

BRAE HARBOUR.

Brae harbour, Prince county, is situated on the northern side of Egmont bay, at the mouth of the Brae river, about eight miles east of West Point and about six miles south of Coleman station, on line of Prince Edward Island Railway.

At the mouth of the river, there is a small area well sheltered by Brae Island, that carries a depth of about 5 feet at low water and which would prove a good fishing station and harbour of refuge for small vessels, as well as a most convenient shipping place for the district, were it not that approach to it is obstructed by a sand bar.

In 1890, the inhabitants of the district began the construction of a breakwater, for the purpose of contracting the entrance and thus causing an increased scour that would deepen the water. They built a work, 350 feet long, composed of brush, poles and some stone ballast, finished with clay on top, to form roadway. To this, the department, in 1892, added a length of 200 feet of somewhat similar work, and in 1898-9, added a further length of 100 feet, making the breakwater to have in all a length of 650 feet. While this gives good shelter for boats, landing and shipping facilities for small vessels, little improvement has been made in the depth of water carried over the bar at the entrance, and, to be completed, it will require some further extension either of the breakwater or the construction of a work from the point of Brae island. The original work, being of very poor construction and also too low, had to be repaired several times, and, as serious damages had been done to it, during the fall of 1905, provision was made for having it raised and repaired during the past season. Delay, however, occurred in the getting out of the materials and only a portion of the work could be done before winter. In all, the sum of \$1,098.74 was expended in raising about 2 feet the inner 550 feet, which was also extended inward 25 feet, putting on face timbers and cross and longitudinal ties, and filling in roadway with broken stone and gravel. Materials required for the proposed raising, floor stringering and close pile fendering of the outer 100 feet have also been bought, but it was not possible to have work done before March 31, end of fiscal year.

CAMPBELL'S COVE.

Campbell's Cove, Kings county, is on the north side of the island, about nine miles west from East Point and fourteen miles northeast from Souris, the eastern terminus of the Prince Edward Island Railway.

In 1872, the place was selected by the provincial government for the construction of a small breakwater, 300 feet long and 30 feet in width, and it was built on the reef that extends from the western side of the cove, the inner end of the work being 70 feet beyond high water mark. As much benefit has been derived from the work, both by the fishing and farming industries, the Dominion government assumed control of the breakwater, in 1873, when the island entered confederation, and in 1882-3, besides effecting necessary repairs then required, extended the work a length of 250 feet seaward, filling in the 70 feet opening between its inner end and the shore.

The repairs and additions made by the department being of substantial character, the work remained in good condition up to 1889, when some slight repairs were required. After that date, however, principally owing to the ravages of the teredo, each storm caused more or less damage, and notwithstanding the extensive repairs effected in 1895, the work continued to suffer each spring and fall. In 1899, a length of 30 feet of the original work was completely carried away, and the adjoining 50 feet so badly damaged as to require reconstruction, which was effected in 1900-1. Repairs were also made in 1903-4-5-6.

During the past summer, the sum of \$458.80 was expended in again opening a space of 70 feet, near the inner end of the work, for the intended purpose of having the tide clear out the deposit of sand that formed within the cove; but such improvement is doubtful.

SESSIONAL PAPER No. 19

During the severe storm of November 1 to 13 and December 1 to 3 last, it received most serious injury, the outer 90 foot block being carried away, besides other damages being done. The cause of the damage is direct action of the teredo, and further proves the uselessness of constructing works of native or unprotected timber on this part of the coast; creosoted timber or concrete being required into height of ordinary high water and imported hard and durable rock for ballast being as well required.

CHINA POINT.

China Point pier, Queen's county, is situated on the west side of Orwell river, near its entrance into Orwell bay.

Originally built by the local government, its control was assumed by the Dominion government in 1894. It has in all a length of 426 feet, consisting of shore abutment or approach, 140 feet long, of six blocks with intervening spans, and a pier head fronting 72 feet on the channel; it has a width of 37 feet, the channel face depth is 15 feet at low water, or 23 feet at H.W.S.T.

When assumed by the Dominion government, the pier, being a very old structure much out of repair, from time to time since required expenditures to be kept in passable condition for traffic.

During the past season, the sum of \$589.46 was expended in raising and levelling up the pier head, putting in new face timbers, cross-ties, floor stringers, covering, &c., and further fender piling its face and ends; about one-half of the fender piles being of creosoted timber. The adjoining span and first inner block were also put in good condition and general repair made to the roadway on the approach.

GRAHAM'S POND.

Graham's Pond, King's county, is situated on the east coast of the island, about five miles south of the entrance into Cardigan bay, and about the same distance north of Murray harbour. The pond has a length of about half a mile, a width of from 600 to 800 feet, and, a short distance from the entrance, a depth of from 5 to 7 feet of water, at ordinary pond level, which is usually $1\frac{1}{2}$ to 2 feet higher than ordinary low water, or 3 to $3\frac{1}{2}$ feet below the height of H.W.S.T.

During the summer of 1900, a new channel was opened into the pond by the Department of Marine and Fisheries (existing one having gradually worked to the south), with a view, if possible, to admit of boats entering the pond at all stages of the tide; but, on the occasion of the first northeasterly storm, the new cut was found to be filling in again and working back to its original position.

In the fall of 1901, by instructions received from the department, the cut, that had been made by the Department of Marine and Fisheries, was cleaned out; a protection of brush, piling and stone was placed at its entrance and proved very effective in keeping the channel in the course desired, besides giving some small shelter for boats.

Extensions of the works have been made since each year and thus crib and pile piers have been built, 340 feet long by about 15 feet in width, on either side of the new channel formed. The distance between the piers is about 30 feet and gives good shelter and accommodation for fishing boats.

During the last summer, the sum of \$699.39 was expended in adding a block, 30 feet in length and 20 feet wide, to the northern pier, and in raising and strengthening the outer end of the southern pier, which was raised about $1\frac{1}{2}$ feet; its channel face was close piled for a length of 70 feet. Different portions of the works were as well further ballasted and strengthened.

7-8 EDWARD VII., A. 1908

HIGGIN'S SHORE.

Higgin's Shore pier, Prince county, is situated on Egmont bay, about ten miles north from Cape Egmont, and about six miles west from Richmond station, on the line of the Prince Edward Island Railway. The pier, which was constructed many years ago, by the provincial government, is one of the Prince Edward Island piers, control of which was assumed in 1884-5 by the Dominion government. It is 453 feet long with a width of 20 feet and extends out to a depth of about 2 feet at low water or 7 feet at high water spring tides.

The pier, as constructed, has close-faced timber sides and ends, well secured together with cross and longitudinal ties, while body of the work has been filled in with brush and stone, a roadway being formed on this with clay and gravel. It has latterly become unfit for use, owing to decay in face timbers and washout by storms, of the roadway filling, &c. Repairs were made during the past summer and fall; new face timbers were put on the sides, averaging 3 feet in height, over the whole length of both sides; the end was also rebuilt, longitudinal and cross ties put in and roadway made up with stone and gravel, at an expenditure of \$1,676.77. Part of the material for a proposed extension of the pier was delivered at site during past winter, at a cost of \$299.60, making the total expenditure for fiscal year \$1,976.37.

HURD'S POINT.

Hurd's Point pier, Prince county, is situated on the southern side of Bedeque or Summerside harbour, about three miles south of Summerside, the shire town of the county. The pier is a most important shipping point, being about the only outlet for the surplus of a large and well cultivated agricultural district. It is also the regular calling place of the ferry steamer plying in the harbour, and which makes several trips daily to it from Summerside. The pier is 500 feet in length and 26 feet wide, excepting on the outer end or pierhead, where for 50 feet in length, it has a width of 65 feet. It is one of the Prince Edward Island piers, the control of which was assumed by the Dominion government in 1884-5, at which time, being an old work, the greater portion had to be reconstructed. Having of late years again got out of repair, small expenditures have required being made, that kept it in passable condition for traffic up to the past summer, when permanent repair of the inner pierhead and the adjoining 230 feet of the shore abutment was made; new cross-ties, longitudinals, floor stringers, covering, &c., were put in. Total expenditure was \$1,570.49.

KIER'S SHORE.

Kier's Shore pier, Prince county, is situated on the east side of Richmond bay, about seven miles from Kensington, a village and station on the line of the Prince Edward Island Railway.

The pier, originally constructed jointly by the local government and the residents of the district, has a length of 1,033 feet, all of which was about 30 feet in width, until 1895, when the outer end, for a length of 50 feet, was widened to 40 feet, repair of all of the work being made at the same time and 2 feet added in height. During the past season, the sum of \$1,341.94 was spent in widening to 40 feet a further length of 80 feet of the outer end of the pier, so as to provide required accommodation. In addition to this, the pierhead was newly floor stringered and planked and general repairs effected over the entire work.

LAMBERT'S PIER.

Lambert's pier, King's county, is situated on the southern side of the Montague river, immediately below the highway bridge, at the village of Montague, and about six miles from where the river enters Cardigan bay. The pier, which is a very old

SESSIONAL PAPER No. 19

structure, has a frontage of 310 feet on the river channel. It consists of two sections, the upper or western one, 140 feet long and 24 feet wide, constructed of cribwork on the inner side and pile-work outside; and the eastern section, 170 feet long, 25 feet wide, formed entirely of pile bents, capped, floor stringered and planked over. The inner side of the western section, as well as part of the eastern, is made up with ballast discharged from vessels, and connects with the bank of the river, forming good approach to the pier.

During the past season, \$1,477.65 was expended in the entire reconstruction of the eastern section of the pier, and of about one-half the width of the western section, new bearing and fender piles being put in, with cap timbers, floor stringers, covering, and guard timbers. Greater portion of the bearing piles are of creosoted timber, while all the caps, floor stringers, &c., were treated with a good coating of 'carbolineum avium.'

MIMINIGASH HARBOUR.

Miminigash harbour, Prince county, is situated on the northwest coast of the island, about fifteen miles from North cape and eighteen miles north from West Point. Before its improvement by the department it was one of the numerous ponds along the coast, the channels from which emptied through low sandy beaches into the Gulf of St. Lawrence, and were constantly being changed in position when severe storms occurred, and at times became completely blocked up.

As the approach to Miminigash pond, however, was sheltered to a great extent by the Miminigash reef, this gave Miminigash pond such an advantage that it was considered superior to the other ponds on the shore, and the place was selected by the department as the best situation on the coast for possible formation of a small harbour.

Work was commenced in 1878, and has been continued at different times since, until now there is at the place, work consisting of breakwaters or piers on either side of the entrance, which has been put in a permanent position. Confining its width to 56 feet, the work, on the northern side, is 550 feet long, and on the south side, 400 feet long. Inward of these there are beach protection works to guard against channels being made through them, on occasion of high storm tides. A good roadway has also been made, 1,200 feet in length, over the sand beach that was difficult to haul over, the work done in all giving greatly improved shipping facilities, accommodation and shelter for fishing boats.

During the last year, the sum of \$36.83 was expended in providing materials and effecting repairs on the covering of portions of the northern breakwater that had received damage during the storm of 1st to 13th November last.

MURRAY HARBOUR.

Murray harbour south pier, King's county, is situated at the head of navigation, immediately below the public road bridge on the South river, and about three miles inward from its entrance into Murray harbour. It is close to Murray harbour station, the terminus of the southern branch of the Prince Edward Island Railway.

The pier extends out from the north bank of the river, which is here about 300 feet wide, to edge of the channel, where a depth of about 10 feet of water is carried at low water spring tides, giving, with the rise of tides at spring, good approach for the largest vessels usually visiting the harbour.

The pier, as constructed by the provincial government, many years before confederation, consisted of an approach or shore abutment, 89 feet long, and an 'L' forming pierhead and having a length of 107 feet on channel, both the approach and pierhead being formed of timber blocks, all of which, excepting the shore end, was floor stringered and planked over.

Owing to natural decay of the top timbers and injury done to the below water portions by action of the ice and ravages of the teredo, the pier for some years had become unserviceable and unsafe for traffic, while danger existed of the blocks form-

7-8 EDWARD VII., A. 1908

ing the pierhead falling into the channel. Arrangements were made for its reconstruction; timber was got out during the winter of 1906, and work commenced in the spring.

Amount expended in 1905-6, \$1,496.94.

During the last fiscal year the sum of \$610.78 was expended in completing the reconstruction of the pier, which was finished satisfactorily about the 1st of September, the expenditure in all on the work amounting to \$2,107.72. The work, as reconstructed, is of the most substantial character; cross-tied timber was used for fender piling on its face and ends, and the floor ties, span beams, guard timbers, &c., were treated with 'carbolineum avenarium.'

NEW LONDON.

New London harbour, Queen's county, is on the northern coast of the island, about ten miles east of the entrance into Richmond bay and about nine miles west from Rustico harbour.

The harbour, sometimes called Grenville or New London bay, has within the entrance, which is about 1,200 feet wide, a length of about three miles and nearly same width, and receives the waters of 'Southwest,' 'Stanley,' 'French' and 'Hope' rivers. All these rivers are navigable for short distances and have at them wharfs or shipping places from which export is made of large quantities of produce during fall and spring. A large quantity of general merchandise, coal, lumber, &c., is imported by water, the district not having, as many other portions of the island, convenient rail facilities. The harbour is also largely used as a fishing station and harbour of refuge for fishermen.

For improvement of the entrance, which is obstructed by a shifting sand bar, works were commenced by the department in 1878, and these now consist of breakwaters, beach protection works on each side, that on the eastern side now having a length of 1,200 feet, while the western one is 460 feet. Their purpose is to confine the water, by preserving and extending the sand beaches, and thus, by increased current so caused, scour away a part of the bar. The result has been obtained to a most satisfactory extent, the depth of water being always much improved at such times as the works remain in good condition.

Since its construction, the western work has received no injury requiring repair or expenditure; but, as the eastern one is exposed to very heavy sea, on the occurrence of northerly storms, and also to a strong current and action of the ice, it requires some expenditure about yearly for its maintenance.

During the past season the sum of \$231.95 was expended in repair and ballasting of portions of it, where washout and settlement had occurred. Materials costing \$372.50 have also been provided during the past winter for the construction of portions of beach protections damaged by the late fall storms. Total expenditure during last fiscal year, \$604.45.

PINETTE PIER.

Pinette pier, Queen's county, is situated on the south side of the Pinette river, immediately below and at right angle to the public road bridge, crossing the river. It was connected with the bridge by a span 28 feet in length.

The pier is 120 feet long by 28 feet in width, and constructed of close-faced timber work, being floor stringered and planked over; it faces on the river channel, where a depth of 8 feet is available at low water. As it is a very old structure, repairs have from time to time been required to keep it in passable state for traffic.

Latterly, considerable settlement has occurred in the work, owing to action of the ice; its bottom was also much destroyed by the teredo. Levelling up and raising of the top was required, the floor-stringers, covering, guard timbers, &c., as well being decayed needed renewal; all of which was effected as well as protecting the channel

SESSIONAL PAPER No. 19

face with fender piling and filling in the space between the pier and bridge with a solid block. Total cost, \$1,000.60.

PORT SELKIRK.

Port Selkirk pier, Queen's county, is situated on the south side of the Orwell river, near its entrance into Orwell bay, and is distant, by water, about twenty miles from Charlottetown.

The pier is in the form of a 'T,' consisting of a pierhead, 250 feet long and 35 feet in width, fronting on the edge of the channel, and an approach, 250 feet long and 23 feet wide. The whole pierhead and the outer part of the approach are composed of a series of blocks and spans floor-stringered and planked over.

During the past season, the sum of \$82.33 has been expended in general repair of the plank covering of the pierhead and approach, putting in new floor-stringers as required, renewal of bearing and fender piles, former being a creosoted timber, and the rebuilding of portions of the faces of the roadway approach.

ROBINSON'S ISLAND.

Robinson's island breakwater, Queen's county, is situated on the eastern side of the entrance to Rustico harbour and on the western end of Robinson's island, which extends in an easterly direction, for a length of about three miles, to what is known as Little Rustico harbour, where only small fishing boats can enter.

The island consists principally of low, sandy beaches with high sand hills ranging along their centre, excepting at the eastern end, where a small portion is under cultivation. On the northwestern side of the island, the department, in 1883, built a work, 450 feet in length, for the purpose of contracting the entrance so as to cause, by the increased current, improvement in the depth of water carried over the sand at the entrance; but the work being of too slight construction was shortly afterwards carried away.

Marked changes have since taken place in the channel and beaches since both works were constructed, there being a depth of 7 feet at low water on the shoalest part of the bar, or 10 feet at H.W.S.T.

For the further improvement of the harbour's entrance, a contract was entered into July 4, 1905, for the construction of a breakwater, 750 feet in length, extending in a northeasterly direction from western end of the island, its outer end to be distant about 1,000 feet from the outer end of the northern work.

The inner end of the new work was to be constructed, for a length of 200 feet, of round log open cribwork, 13 feet wide, having cross-ties and fender piles at 10 feet centres; it was to be ballast-floored on lower cross-ties and be solidly filled with ballast. For a further distance of 500 feet, the intended width was 18 feet and it was to be of piling secured to walings, solidly filled in with brush and stone, planked, &c., outer 20 feet being of similar construction but 26 feet in width.

This work that was commenced in the latter part of July, 1905, but suspended about end of September of that year, was recommenced during the past summer and continued up to the end of October last, at which time all of the length was carried out so far as the piling and greater part of the covering was done. Work was again resumed in March last and ballasting about completed.

Expenditure during 1906-7, \$6,532.50.

RUSTICO.

Rustico harbour, Queen's county, is on the north side of the island, about midway between East Point and North Cape, and is one of the most important fishing stations.

For improvement of the entrance, which is obstructed by a shifting sand bar, the department, during 1881-2-3-4, constructed a breakwater on the north side, for the

7-8 EDWARD VII., A. 1908

purpose of confining the current at ebb tide, and thus by scour deepening the water, besides forming protection to the low beach, on which are situated most of the fishing stages and houses of the fishermen.

The work, originally 1,240 feet long, was composed partly of solid close faced timber work and partly of pile, stone and brush work. The piles in this having been completely decayed, the work was unable to withstand the severe storms and high tides of 1st to 13th November last, and, for a length of 400 feet, was completely carried away, endangering the safety of the fishing houses and stages. Temporary repairs were effected by constructing a breast work of brush, poles and ballast, which have accumulated the drifting sand to such an extent that, with some little additional work, the protection may prove sufficient. Expenditure, \$427.75.

STEPHEN'S PIER.

Stephen's pier, King's county, is situated on the southern side of the Montague river, about six miles below its entrance into Cardigan bay and immediately below Lambert's pier and Montague bridge.

It consists of two wings or approaches, about 50 feet apart, and extending out from the bank of the river to the edge of the channel, where the pierhead has a frontage of 100 feet. The wings or approaches are respectively 90 and 115 feet long and are formed of close faced timber work, the space between them being filled with brush and ballast discharged from vessels, gravel and clay being placed on top to form roadway. Pierhead is formed of pile bents, capped, floor stringered and planked over; a guard timber is placed on face and ends and fender piles are put in.

The bearing piles in the bents having become unsafe, through the action of the teredo, their renewal was effected during the past summer; general repair of the capping floor stringers and covering was also made, at a cost of \$263.98 against the work, this principally for labour.

As the greater part of the floor stringers, capping and covering had been procured at the time, similar materials were being got out for Lambert's pier and charged to it, the foreman being the same on both works did not separate the different accounts. Timber used for the piling in the bents forming the pierhead is creosoted and was also supplied to the work out of a quantity of creosoted piling that had been provided and delivered at Charlottetown for use generally in repair and strengthening of the Prince Edward Island piers.

ST. PETER'S BAY.

St. Peter's bay, King's county, is entered from the Gulf of St. Lawrence, about thirty-five miles west from East Point; it is of considerable extent, running inland about eight miles, with an average width of three quarters of a mile, and carrying over it at low water a depth of from 2 to 3 fathoms.

The entrance, however, being obstructed by a shifting sand bar and having over it only from 6 to 7 feet at low water, renders the bay now only available for vessels of small size. To improve the water over the bar, where it is said that in 1860 there was a depth at low water of 9 feet, works were commenced in 1878 by the department on the west side of the entrance. They now consist of a breakwater, 256 feet long, built of close-faced solid timber work, fully ballasted, floor stringered and planked over; its inner end connects with beach protection which is composed of round long open cribwork, filled in with brush and ballast and 1,420 feet long, extending across the beach to the high ground, so as to prevent a channel working through on its inner side.

In 1883, it was proposed further to contract the width of entrance by the construction of a breakwater, 1,900 feet long, extending from the eastern beach; but the contractor abandoned the work, when less than half built, and for years little has remained of the part built.

The matter of improving the entrance again having been taken up by the department, a contract was entered into with Messrs. Lachance & Kennedy, of Ottawa, Au-

SESSIONAL PAPER No. 19

gust 3, 1905, for the construction of a work, 900 feet in length, to extend from the end of the east beach towards the outer end of the western work.

Further than getting out some materials, nothing was done up to about the latter part of May, 1906, when driving of the bearing piles was commenced. Getting these in and putting on one set of walings, cross timbers at 10 feet centres on the outer 625 feet length of the work have been effected by the 30th June last.

Since then the work done has consisted in the construction of the inner 275 feet, composed of cribwork; this yet requires ballasting. The two further necessary walings and cross-timbers at 5 feet centres were put on over a length of 200 feet, and sides on the same were close piled, space between being partly ballasted. All of the season had been stormy, much preventing the progress of the work, while the storm that set in November 1 and continued up to November 13 prevented anything further being done for the season; this storm, while carrying away some of the materials that had been provided for the work, as also doing injury to scows, &c., in no way injured the work. A further storm and high tide that occurred December 1-3, however, did much damage, carrying away a length of 130 feet of the bearing piles, walings, &c., immediately outward of the part of the work where the close piling had been done.

During the past winter so much injury was done by action of ice and scouring as will require the removal of bearing piles, walings, &c., on a length of 375 feet of outer portion. On the western side of the entrance the sum of \$299.45 was expended in making up with brush and stone a washout that had been caused in the beach protection works by the storm of November 1-3.

Total expenditure during the fiscal year 1906-7, \$3,896.95.

SUMMERSIDE HARBOUR.

Summerside harbour, Prince county, is on the southerly coast of the island. The town of Summerside is in population next to Charlottetown, with 3,000 inhabitants, the second place in importance for shipping, and one of the principal stations on line of the Prince Edward Island Railway, by which it is distant from Charlottetown forty-nine miles, and from Tignish, the western terminus, sixty-eight miles.

During the season of navigation, daily communication is had with the mainland by the steamers of the Prince Edward Island Steam Navigation Co., at Point Duchene, where connection is made with the Intercolonial Railway, and so with all parts of Canada and the United States.

The entrance into the harbour, between Indian Head and Phelan Point, is about one and a half miles wide. A sand spit, however, partly dry at low water, extends about 3,200 feet from Indian Head, the water also being shoal for a distance from the opposite shore, so that the deep water channel carrying 18 feet of water is only about 500 feet wide opposite the lighthouse, which is situated on the north side of the sand spit, outward of Indian Head; inward of this the channel in the harbour, to the railway and other wharfs at the town, is from 400 to 1,200 feet wide and has a depth of from 23 to 30 feet at L.W.S.T.

For the improvement of the channel, as to depth and direction, dredging at different times has been done by the department, while, for protection from southwest winds a contract was entered into February 27, 1906, for the construction of a break-water to extend 3,220 feet from Indian Head to the outer side of the sand spit on which the lighthouse is situated.

The work, which is to consist of a cribwork core, 10 feet wide on top, is to be entirely covered with stone, forming a rubble mound four feet wide on top, and five feet above H.W.S.T.; it will be provided with a slope, on seaward side, of 2 to 1, and on the inner side $1\frac{1}{2}$ to 1.

The length of the stonework is 3,200 feet, with an outer block measuring 112 feet long by 20 feet wide on top, constructed of close-faced timber work fully ballasted

7-8 EDWARD VII., A. 1908

and having slope of 1 to 1 on its seaward side and ends; all of the timber below water is creosoted. Work, which was commenced early in May, was continued up to about the middle of November, when a length of 700 feet of the cribwork core had been placed in position, and considerable portion of the rip-rap work done. The necessary creosoted timber for outer block has also been delivered.

Expenditure during 1906-7, \$5,848.04.

VICTORIA PIER.

Victoria pier, Crapaud, Queen's county, is situated at the head of navigation, inward of Crapaud basin, at Victoria village, which, after Summerside, is the most important port of shipment on the southwestern coast of Prince Edward Island. It is about midway between Charlottetown and Summerside harbours and about eleven miles distant south from Emerald junction, on the line of the Prince Edward Island railway.

The pier has a length of 468 feet consisting of shore abutment or approach, 286 feet long and 20 feet wide, middle section, 143 feet long and 37 feet wide, and a pier-head, 57 feet long and 58 feet wide.

With the exception of the approach, which is built solid, the work was composed of alternate blocks and spans, floor stringered and planked over. The pier is one of the Prince Edward Island piers, control of which was assumed by the Dominion government in 1884, and, being at the time an old structure much out of repair, it has since required expenditure at different times.

During the past season the sum of \$1,695.96 was expended in general repairs, and in filling in solidly what had been formerly spans on the middle section.

WOOD ISLAND.

Wood island, Queen's county, the most southerly part of Prince Edward Island, is situated about thirty miles southeast of Charlottetown and about fifteen miles westward from Cape Bear. Originally two small islands, they are now connected together as also to the shore by sand beaches; there is a sand spit extending out from the shore to within 300 feet of the eastern island.

The formation of a shipping place was commenced here by the provincial government in 1859, but, as at no time were the works in good condition, little, if any benefit resulted from them until 1894, when reconstruction of the northern breakwater was effected by the department, and the southern one repaired. This latter has since been extended, having now a length of 950 feet; the length of the northern one is 2,500.

Since July 1 last, an expenditure of \$1,250.99 has been made at the place in effecting the repair of the outer end of the north work, that has been damaged by ice during the winter, in building a jetty, 70 feet in length and 15 feet in width, from the side of the south work outwards to the channel, also in adding length of 40 feet to jetty built last season. The purpose of these works is to contract the channel and cause, by scour, improvement in depth of water, which result has been obtained.

NEW BRUNSWICK.

ANDERSON'S HOLLOW.

Anderson's Hollow, Albert county, is a cove of Salisbury bay, on the northwest side of Chignecto channel in the Bay of Fundy. Spring tides rise $40\frac{1}{2}$ feet; neaps, $32\frac{1}{2}$ feet.

The breakwater wharf at this place was begun in 1879 by the construction of a detached block 550 feet from the shore with which it was afterwards connected. In

SESSIONAL PAPER No. 19

August, 1885, the work was 290 feet in length, and three years later was carried to the shore. The structure, 25 feet wide on top, was originally 27 feet high at the outer end; but, the bottom having been raised by the accumulation of the littoral drift, the height is now 3 or 4 feet less. It is built of round timber cribwork, lightly battered on the inside, but sloped at the rate of $\frac{1}{2}$ to 1 and sheathed on the weather-face.

The breakwater was damaged by storm on November 21, 1895, when a small light-house placed at the outer end was swept away, together with part of the break, while some of the top work at the head was simultaneously shaken and started.

In 1895-6 a small sum was applied in bolting loosened timber for temporary security.

Repairs and improvements were made in 1897, 1899, 1902, 1903 and 1904.

Like many other works in the Bay of Fundy, Anderson's Hollow crosses the direction of the flood stream and of the prevailing winds. In consequence an accumulation of littoral drift is found on the southwest side, which travels round the end, and is deposited under the lee of the breakwater, forming a shoal which is an obstacle to vessels.

In 1904-5, an extension was completed, sheathed, covered, ballasted and fendered; one new ladder was made and placed in position; a quantity of sheathing was rebolted; 5 new fenders were placed; 700 lineal feet of pieces of covering were laid; 35 feet of new cap were placed; 1 new mooring post was put in and the break was rebuilt for 72 lineal feet.

The steep approach to the wharf was besides improved by lowering the rock cutting 4 feet, by widening it to 14 feet and by making an embankment 21 feet wide, supported on both sides by retaining walls of stone, each 33 feet long, 9 feet in mean height and $2\frac{1}{2}$ feet in mean thickness, containing 55 cubic yards of dry masonry.

In 1905-6, from 80 to 90 new pieces of sheathing were laid on the battered face; 13 ribs were bolted to strengthen the break; 7 fenders were secured; 2 new mooring posts were placed in position and a bed for vessels was made alongside the work. A dike of brush and stone, 420 feet in length, containing 155 cubic yards, was besides built to lead the stream to scour the shoal.

In 1906-7, brush and heavy stone were placed on the dike to strengthen it, and 3 mooring posts, for the work, were procured.

The expenditure during 1906-7 amounted to \$98.17.

BUCTOUCHE HARBOUR.

Buctouche Harbour is separated from Northumberland straits by a sand beach from six to seven miles long. At the southern end of the beach is the entrance to the harbour. The northern end of which are important fishing grounds, is connected with the mainland.

The inhabitants of the northern end of the harbour are practically debarred from outside fishing by the distance from the village around by the harbour entrance to the fishing grounds, and there is no shelter for boats on the outside shore. It is therefore proposed to make a cut through the beach at its northern end—the narrowest part—the width there being only about 500 feet.

Work was begun in May 1905, and by the close of the fiscal year 1905-6, a stake and brush breastwork, 2,800 feet long, had been built to raise the low parts of the beach formerly washed by storm tides; a row of close piles 219 feet long had been driven to retain the slope along the north side of the cut; the timber work of the north breakwater, 216 feet long, had been completed; and the piles of the south breakwater, 143 feet long, driven. About 4,000 cubic yards of sand had been removed from the site of the proposed canal by scrapers and hand labour.

The inner 35 feet of the breakwater is $4\frac{1}{2}$ feet wide and formed of two rows of piles, driven 4 feet centre to centre, and filled between with brush. The outer portions are $11\frac{1}{2}$ feet wide out to out, are close piled on the outside and have two rows of main

7-8 EDWARD VII., A. 1908

piles driven 6 feet centre to centre and connected with walings and cross ties of square timber.

During the fiscal year ending March 31, 1907, the timber work of the south breakwater was completed; tracks for the trolley were laid on both breakwaters and they were filled with brush and stone; 324 close piles driven to continue the breastwork along the north side of the cut, and 75 piles 6 feet apart and 10 feet to the rear of the close piles to support the braces. The braces were bolted to the rear piles and to a waling which was bolted to the close piles throughout the whole length, 452 feet of the breastwork, and brush was placed behind the close piles. 200 pickets were driven over a length of 306 feet, for an inner breastwork lengthwise with the beach, and brush was placed between the pickets. 91 cubic yards of small and 100 of large stone were procured for filling and placing outside the breakwater.

The expenditure for the fiscal year ending March 31, 1907, was \$1,998.82.

CAMPBELLTON.

Campbellton, a thriving town of about 3,800 inhabitants, is situated on the southern side of the Restigouche river, sixteen miles above Dalhousie and six miles below the head of the tide. It is a divisional station on the Intercolonial Railway and an important deal port.

Between 1889 and 1892 a departmental wharf was constructed at Campbellton, extending 250 feet easterly from what was lately known as the Shives' wharf. The latter has since been expropriated, and repairs on its front and for 46 feet of its westward face, begun in 1903-4, were completed in July, 1904, thus giving to the government wharf a frontage on the river of 340 feet.

In October, 1904, a contract was entered into for the construction, on a foundation to be dredged to 22 feet at low water, of a deep water wharf 304 by 35 feet, extending easterly from the original departmental block with which it is connected by a span 19 feet long on the outer face. The contract price was \$35,300. Construction was begun on June 12, 1905, and by June 30, 1905, one crib (140½ by 41 feet at bottom) had been built to a height of 12 feet 3 inches. The site was dredged in July, 1905, and at the close of the fiscal year 1905-6, the work remaining to be done under the contract consisted of laying the cap, covering, stringers and upper two to three tiers of face timbers of the fenders for about 230 feet on the western end; placing the upper lengths of the fenders, eight mooring posts, the ladders and ring bolts and the ballasting. The wharf was completed on September 19, 1906. Its dimensions as finished are 306.8 feet long by 35.2 feet wide.

On February 28, 1906, a contract was entered into with Mr. William Glover for the construction of a wharf, 200 feet long and 75 feet wide, to be built as a western extension to the government wharf. The contract price was \$16,495.

At the close of the fiscal year 1905-6, the cribwork was practically completed, 271 feet of the cap, two-thirds of the covering and nearly all the stringers were laid. Piles were driven along the western end and for part of the front face, and hardwood sheathing placed along 70 feet of the rear; three mooring posts were placed.

The work, which is intended for interprovincial or coasting traffic, gives a depth of 9 feet at extreme low tide along the outer face. It was completed on September 8, 1906.

Instead of continuing the repairs on the westward face of the Shives' wharf (so-called) shoreward, a narrow wharf was built during the winter and spring of 1906, by day labour, outside it on the line of the westerly side of Ramsay street. This wharf is 258 feet long 15 feet wide on top. The inside face is of open cribwork and has a batter of 1 in 4, the outside face is sheathed with hardwood and has a batter of 1 in 12. The outer end of this work connects with the inside face of the western extension. About 24 feet of sheathing, a small quantity of ballast and three ladders were still required on the work at the end of June, 1906. The wharf was completed in the fiscal

SESSIONAL PAPER No. 19

year 1906-7, and a low cribwork wall 128 feet long filled behind with bark and earth was added at the inner end to form an approach from Ramsay street.

In the spring of 1906, a considerable amount of material was deposited by the town in the space between the new wharf and the old face. The filling was continued by day labour during the fiscal year 1906-7, a large quantity of cedar bark, earth, and brush being obtained for the purpose; and the space is now nearly filled, adding an area 258 feet long and from 15 to 48 feet wide to the government property.

On the easterly side a cribwork was built during 1906-7 by Mr. Wm. Glover at a cost of \$2,880 to fill in the angle between the Shives' wharf (so-called) and the original departmental block to allow of a second railway siding being laid out to the deep water wharf. The work was begun on July 7, 1906, and completed on October 29. It is 148 feet long on the outside face, which is sheathed with 4-inch plank; the general width is 19 feet, decreasing at one end to 1½ feet, and the height varies from 12·5 to 21·6 feet. The top is finished with earth and gravel.

From the inner end of this cribwork, the remaining 196 feet of the eastern face of the Shives' wharf, which before on this face consisted of open bays of cribwork scarcely ballasted and not covered, was raised and levelled, by day labour, with two additional face timbers, a cap and 17 cross ties. The interior was filled with from 5 to 8 feet in depth, of ballast, cedar bark and earth; the outside was sheathed with 4-inch plank to the top of the cap, and 5-ring bolts and two ladders were set on the face.

The levelling of the old wharfs to bring them to the elevation of the new, *i.e.* to 4 feet above H.W.O.S.T., was continued along the original departmental block, on both sides and on the river front of the Shives wharf. Additional face timbers were added and short pieces of fenders were scarfed off the old. The interior of both wharfs and also the corner between the new cribwork for the railway siding, and the old wharfs, were filled and levelled with brush, bark, ballast, earth and gravel. The winter closed in before the surfacing was quite completed, and on the outside face of the original wharfs a length of about 140 feet still requires an additional face timber, the cap, and upper lengths of fenders to complete the levelling.

On the above work about 2,600 cubic yards of cedar bark, earth and gravel, were used, besides a large quantity of brush. The work was done by day labour.

On February 11 the construction of a warehouse was begun on the western extension. The building is 110 feet long and 40 wide, with side walls 16½ feet high, and a pitched roof with sides sloping at the rate 1 to 1, supported on eight trusses of 40 feet span. The work is being carried on by day labour. By March 31 the sides had been boarded in ready for shingling and the roof was ready for the asphalt roofing. The 2-inch flooring was completed.

The expenditure for the fiscal year ended March 31, 1907, amounts to \$31,111.40, including \$10,354.33 for dredging.

OLD FERRY WHARF.

To provide a landing for the ferry steamer plying between Campbellton and Cross Point, Bonaventure county, Quebec, the department, between 1889 and 1894, constructed a ferry wharf 406 feet long on a site selected by the town council.

This has not been used for some years as a ferry landing, as the site was unsuitable, and a new landing giving only sufficient room for the ferry boat has been built elsewhere.

The old wharf is, however, much used by boats from the surrounding districts, both of Bonaventure and Restigouche counties, and as it was in bad condition and the outer end had been carried away, repairs were undertaken by the department in the spring of 1896. Previously, the inner 250 feet of the wharf had been filled with earth, &c., by the town council, to make it passable for teams.

During 1905-6, the remains of the old planking were removed on the outer 100 feet, new 10-inch by 10-inch cap timbers and ten new fenders were placed along the sides; two

7-8 EDWARD VII., A. 1908

old spans were logged up at the sides, and the interior of the outer 100 feet as well as parts of the inner were filled and surfaced with cedar bark, clay and gravel.

During the fiscal years 1906-7, these repairs were continued, the outer 55 feet of the wharf was built and levelled up with new cribwork, which at the end is 10·8 feet high, giving the wharf a total length of 373½ feet, filled with stone ballast. An old block, 84½ by 11 feet, at the northwestern corner of the ferry wharf was also repaired. The cribwork was strengthened by the insertion of new timbers and by extra bolting; the interior was filled with stone, bark and earth, and surfaced with gravel; a cap, 6 new fenders and 18 feet of new sheathing were placed around the work.

The expenditure for the fiscal year 1906-7 is included under the item for day labour, in the Campbellton report, and amounts to about \$450.

CAPE TORMENTINE.

Cape Tormentine is situated on the southwestern side of Northumberland straits, at the extreme eastern end of Westmoreland county. It is the terminus of the New Brunswick and Prince Edward Island Railway, and the nearest point of communication between Prince Edward Island and the mainland, there nine miles apart.

To form an artificial harbour for purposes of interprovincial communication between the island and the mainland, a breakwater pier was constructed by the department between 1886 and 1892.

The structure comprises a straight pier or approach, 2,500 feet long (the first 1,300 feet of which is a rubble mound and the remainder close-faced cribwork) and a pierhead and 'return' each 400 feet long, of close faced cribwork. The outside faces of the head and 'return' were, from about low water level to the top of the work, built with a slope of 1 to 1 which was sheathed with hardwood. The whole incloses a harbour of an area of about four acres and a depth, up to the autumn of 1892, of 13 to 15 feet at low water, but which has since been increased in parts to 18 feet by dredging.

Spring tides rise 7¾ feet, and neaps 3¼ feet.

Owing to the ravages of the teredo, repairs became necessary to the timber section of the work soon after its completion and have since been carried on annually. They consisted up till 1901 mainly of renewing the face timbers and sheathing of the sloping faces of the pierhead and 'return,' and protecting the north and a portion of the south faces of the approach, and about 300 feet of the outer face of the pierhead with large and small stone, which is still in progress, and driving hardwood close piling along a portion of the inside of the approach and, later, creosoted 12-inch by 12-inch piles about 2½ feet apart around the harbour side of the work.

In 1901-2, a temporary quay face 205 feet long was constructed of piles, hardwood walings and cross ties, along the outer or south face of the 'return' for the winter steamer service between Prince Edward Island and Cape Tormentine. A combine station and freight shed, 100 feet by 25 feet, was built on the 'return.'

In 1902-3, the remains of the old slope at the southeast corner of the pierhead were replaced with double close piling and walings, and the timber of the breakwater, which had settled considerably, was raised and levelled for 750 feet of the approach, to bring the top of the flooring 4 feet above H.W.O.S.T.

In 1903-4, this latter work was continued throughout the approach and for part of the pierhead. On a section of the pierhead 49 feet long, next the corner rebuilt in 1902-3, the old timbers were removed nearly to low water level, on the outside, and the work was rebuilt with a vertical face, consisting of piles, walings and cross ties, tied into the old work and protected by creosoted piles driven close. The top was levelled at 4 feet above H.W.O.S.T.

In 1904-5, this vertical face was continued northerly 45 feet, the new section being completed, except for the close piling, ballast and covering. The same work was undertaken to replace the old slope on the 'return,' where a length of 50 feet at the southwest end was completed, except for close piling, ballast and covering; and a further length

SESSIONAL PAPER No. 19

of 50 feet begun. Sixty-three feet of the quay face was rebuilt permanently, being faced with creosoted close piles and filled with ballast. The levelling of the pierhead was completed over the remaining length of 250 feet.

In 1905-6, the placing of the walings, longitudinals and cross ties at the second 50-foot section of the 'return' was completed and the remainder, 79 feet long, of the old slope was removed and the face rebuilt in the same way. Seventy feet out of the whole length of 179 feet was faced with 12-inch by 12-inch creosoted close piles. The top was levelled and the covering partly laid. On the quay face a length of 48 feet was brought up to the level of the new work and 12 by 12 creosoted piles were driven close for a length of 70 feet. Minor repairs were made and timber and iron, at a cost of \$1,080 were procured towards a continuation of the work.

During the fiscal year ending March 31, 1907, the last sections of the 'return' were levelled. One 95 feet by 5 feet behind the freight shed, required only extra stringers, covering and cap.

In the second, 104 feet by 16 feet, in front of the freight shed, 21 spruce piles were driven inside the work, and outside, for 55 feet of the length, creosoted close piles were driven. For 48 feet the work was filled with ballast and covered with 5-inch plank, and a cap was laid and screw-bolted in the creosoted piles. The remainder was temporarily covered with 3-inch deals.

A strip of 5-inch hardwood sheathing, 164 feet long, was placed horizontally, reaching from the top of the cap to about half tide level, outside the creosoted piles to protect them from damage by ice and vessels.

Four hundred and fifteen cubic yards of ballast were procured for use when the remainder of the close piles can be driven.

The freight shed was repaired and partly sheathed with 3-inch deals.

Two hundred and fifteen 12 inches by 12 inches creosoted piles were procured at a cost of \$5,867.32.

The expenditure for the fiscal year 1906-7 was \$9,996.88.

CARAQUET.

Caraquet is situated on the south side of Baie des Chaleurs, forty-two miles east of Bathurst. It is an extensive and prosperous fishing village and settlement, with a population of about 4,000 and with the exception of Bathurst, is the most important station on the Caraquet railway.

In March, 1902, a contract for a deep water wharf, for the shipment of lumber from Gloucester county, was entered into.

The wharf is built of round timber in open cribwork. It is 1,700 feet long and consists of a shore block 255 by 25 feet, 25 blocks 25 feet square, 26 spans of 20 feet, and a pierhead 300 by 40 feet. The latter rests on a foundation which was dredged by the department in 1903, to 22 feet at low water.

The contract price was \$59,990.

The wharf was begun on July 7, 1902, and completed on October 31, 1905.

During the fiscal year 1905-6, two ice-breakers were built as a protection to the blocks of the wharf, and some slight damage to the pierhead caused by ice was repaired.

The work of grading and fencing the right of way, 1,200 feet long, from the wharf to the public road was begun in June, 1906, 450 cubic yards of earth and rotten stone, all requiring picking, were removed during that month.

Work on the right of way was continued and completed during the fiscal year ending March 31, 1907, 131 rods of wire fence and five gates were erected in all, and the total excavation amounted to about 2,300 cubic yards. Two culverts of 12 inches vitrified pipe were laid under the road with small rough masonry abutments, at the ends, and deep off-take ditches.

7-8 EDWARD VII., A. 1908

Eight iron plates were placed around the two outer corners of the pierhead of the new wharf; they are 2 feet by 8 feet by $\frac{3}{8}$ -inch and are secured each with twelve $\frac{3}{8}$ -inch by 8-inch bolts.

The expenditure for the fiscal year ending March 31, 1907, was \$2,590.10.

CHANCE HARBOUR.

Timber required to build a small inclined breakwater, partly submerged at high water, at this place, a cove in the Bay of Fundy, eighteen miles west of St. John, was delivered, and the work was begun in the spring of 1905. By June 30, in that year, the outer end had been built to a height of nine tiers and ballasted, the bottom tier being 80 feet in length.

In 1905-6, the work was brought up to sixteen tiers in height at the outer end, and four tiers at the inner end, besides being extended to a length of 168 feet, the covering being laid for a distance of 60 feet.

In 1906-7 the work was raised four tiers and ballasted.

The expenditure in 1906-7 was \$548.60.

CHOCKFISH.

Chockfish is a fishing and farming settlement at the mouth of the Chockfish river, which empties into Northumberland straits, about midway between Richibucto and Buctouche.

The works at Chockfish are intended to straighten the channel at the mouth of the river, which was formerly obstructed by shifting sand bars, and to render it deep and stable, and thus afford a safe entrance and harbour for fishing boats. They consist of a dam, closing the old deflected channel, and north and south breakwaters. The dam is 356 $\frac{1}{2}$ feet long, it was begun in 1901-2, and extended in 1902-3. The north breakwater was built for a length 516 feet in 1903-4, and extended 50 feet during 1906-7. The south breakwater, begun in 1904-5, has a total length of 264 feet, of which the outer 50 feet was built in 1906-7. It is a continuation of the dam. An opening 44 feet wide is left between the two breakwaters.

The extensions built during 1906-7 are both 11 feet 6 inches out to out, and consist of two rows of main piles placed 6 feet centre and 10-inch by 10-inch walings. They are close piled on each side and filled with brush and stone. A new track, of plank, for the trolley was laid on the south breakwater.

The expenditure for the fiscal year ending March 31, 1907, was \$1,498.96.

COCAGNE.

Cocagne lies on the Northumberland straits, ten miles south of Buctouche. It is the port of the parish of Dundas, a farming, fishing, and lumbering district of about 3,500 inhabitants.

In 1881-2, the department began the construction of a cribwork wharf, 400 by 20 feet, leading from the highway bridge across Cocagne river, and with a depth of water along its outer face of from 9 to 11 feet.

The width for part of the length was increased to 40 feet in 1888 and 1892.

Repairs were undertaken in 1898-9 on a part 22 $\frac{1}{2}$ feet wide and 176 feet long (the remainder of the 400 feet, which had gone into decay, being removed) and this section was widened by placing stone along the bank for a width of ten feet on top of the old structure. The stone has since settled, and to give room for teams to turn on the wharf and more space for freight, it was proposed to widen the wharf by adding cribwork to the old part, to bring it to the level of the new.

This was done during the fiscal year ending March 31, 1907, when two tiers of round timber, five rows of 9-inch stringers, 3-inch covering, and 9-inch by 10-inch cap, were laid over a section of the old work 92 feet wide. Forty-three cubic yards of ballast

SESSIONAL PAPER No. 19

were placed in the outer end of the built-up portion, and four ring bolts and a ladder along the face.

The expenditure for the fiscal year 1906-7 was \$396.68.

DALHOUSIE.

Dalhousie lies at the head of the Baie des Chaleurs and the mouth of the Restigouche river, sixteen miles below Campbellton. It has a population of about 1,200 and is an important deal port. Dalhousie harbour is during the season of navigation, one of the best in the province, being well sheltered and having a depth of from four to seven fathoms at low water.

At the terminus of a branch of the Intercolonial Railway, the department constructed in 1887 a wharf 300 feet long, 22 feet wide on top, giving a depth of 14 feet at low water. This depth has since been reduced through ballast having been washed out of the work.

On August 1, 1904, a contract was entered into for the construction of a deep water wharf, 304 by 35 feet, built on a foundation dredged to 24 feet at low water. This work lies immediately above the old government wharf. The contract price was \$42,000.

In August 1905, the dredging required under the contract was performed, and on January 22, 1906, the cribwork was begun. By June 30 the cribs had been sunk and filled with ballast, and the upper ballast floor was laid. The superstructure beginning about the centre of the work was carried up to within five tiers of the full height, at the eastern end.

The wharf was completed on October 18.

On January 8, 1907, work was begun on a connecting block between the old and new works. An opening of 20 feet is left between the deep water wharf and the block, to be spanned with 12 by 12-inch stringers and covering. The block is of round cribwork with double timbers faced and close-piling on the exposed faces.

Its inner side is contiguous with the old work throughout.

It will be 220 feet long and 56 feet wide at the upper end decreasing in width to a point at the lower end to give, with the deep water wharf, a straight face of 550 feet.

Dredging by the *St. Lawrence* on the site of the new block in the season of 1905, produced a depth of 17 to 20 feet at low water along its face.

By March 31, 1907, the block had been built to an average height of 1½ feet above high water.

The expenditure, for the fiscal year 1906-7, was \$22,394.40, being \$8,700 on the contract for the deep water wharf, \$13,200 on the connecting block and extra under the contract and \$494.40 for inspection, &c.

DIPPER HARBOUR.

In 1904-5, a contract was let for the construction of a new breakwater, (the old one built in 1873 having been carried away in the same year), at Dipper Harbour, a fishing station on the Bay of Fundy, twenty miles west of St. John. The work, to be 335 feet in length and 43 feet high at the outer end, the whole surmounted by a parapet, is intended to replace an old breakwater, and to give shelter to the fishing boats of the neighbourhood. By June 30, 1906, the superstructure, at the inner end, had been brought up to the level of the under sides of the stringers; while the cribs of the outer end had been sunk in place and built to within 8 feet of high water.

In the year 1906-7, the contract was completed.

The total expenditure to June 30, 1906 (including \$22,244.52 for the old breakwater) amounted to \$44,583.91.

The expenditure for 1906-7 was \$23,964.74.

7-8 EDWARD VII., A. 1908

DOUGLASTOWN.

Hutchinson's wharf, Douglastown, lies on the north bank of the Miramichi river about three miles below Newcastle. About 10,000,000 F.B.M. of lumber are exported annually. At the wharf from which this is shipped the depth at the face was only about 14 to 16 feet at L.W.O.S.T. Forty feet out, the depth increases to from 18 to 20 feet.

Vessels were in danger of being strained at low water and would settle so far from the wharf as to cause difficulty in loading.

Therefore during the past season dredging to a total amount of 2,905 cubic yards was carried on by the *Peter England* dredge, at a cost of \$939.

A depth of about 20 feet at L.W.O.S.T was obtained along the face of the wharf.

DURHAM.

Durham, the most easterly parish of Restigouche county, has a population of 2,200 occupied in lumbering, farming and fishing.

For the protection of the fishing boats and to facilitate the shipment of lumber, a contract for a breakwater was entered into on June 20, 1905, with Messrs. John and Joseph Goulette.

On October 23, 1905, the contract was transferred to Messrs. J. & A. Culligan. The contract price was \$17,700.

Work was begun on September 1, 1905, and by June 30, 1906, all the cribs of the approach had been sunk in place, the covering was laid for a length of 216 feet, stringers for 245 feet, and the round timber work was complete for 273 feet, the upper ballast floor was laid for 405 feet, the sheathing was complete for 165 feet, and the fenders for 245 feet. The crib for the pierhead had been built eight tiers high.

The breakwater was completed on September 22, and has a total length of 702 feet. It is constructed of round timber cribwork sheathed, except for the inner 70 feet of the approach, with 4-inch hardwood plank. The approach is 20 feet wide. The pierhead is 30.4 by 48.5 feet and is placed crosswise with the approach.

During 1906-7 a short pier or groyne was built outwards from the shore at a point 300 feet easterly of the first work, to give protection from easterly winds to boats lying at the latter and to retain the littoral drift.

As completed the pier is 124½ feet long and 12½ feet wide. The inner 38 feet is of earthwork with stone slopes, the remainder of cribwork similar to the breakwater, the outer 47 feet being sheathed with 4-inch hardwood plank. It was built as an extra by the contractors and completed on October 5.

The expenditure during the fiscal year 1906-7, was \$5,529, of which \$4,400 was for the original contract, \$850 for the eastern pier and \$249 for inspection.

FORT DUFFERIN.

Fort Dufferin, built by the Imperial government to command the western entrance of St. John harbour, stands on high ground, immediately above the end of Negro Point breakwater. In order to preserve from erosion by the waves the headland, crowned by the battery, this department began in 1882 at tide-level a retaining wall of sheathed cribwork, 430 feet in length, and in the following year constructed a further length of 303 feet. The work is exposed on the one hand to the force of the waves, and on the other hand to land slips.

In 1886-7 it was much disturbed by the sea and repairs were made in that and the following years, 205 feet of the original work being rebuilt. From 1887 to 1889 repairs were also made, and in 1890 the work was extended 100 feet.

General repairs were made in 1893-4. The work is from 7 to 14 feet wide on top and about 9 feet in mean height. The crest for the whole length is surmounted by a break 2½ feet high.

SESSIONAL PAPER No. 19

During the year 1896-7 a gap 81 feet long, in the break, was repaired, 200 lineal feet of longitudinals were renewed inside, and 128 cubic yards of ballast were restored to the work, while the sheathing was patched at intervals along the face with hardwood planking. In order to raise the beach and so protect the lower part of the face, toward the end of 1896, a groyne, 40 feet long, 10 feet wide and 4 feet in average height was built of hardwood piles, timber and stone. In 1897, the extension of the cribwork, a distance of 130 feet, was begun, and by the end of that fiscal year, had been brought within two tiers of the full height.

In 1897-8 the new extension was completed, ballasted and sheathed. Small repairs were also made to the sheathing of the old work.

In 1898-9 four groynes, in all 332 lineal feet, each built of hardwood piles, spaced 4 feet apart, driven from 9 to 12 feet into the bottom and planked with birch 9 inches square, securely strapped and bolted, were placed along the beach to protect the lower part of the sheathing of the breastwork; some ballast was also placed in the cribwork.

Repairs and improvements were made in 1900-1-2-3.

During the fiscal year 1903-4, a new block, 70 feet long and 20 feet wide, of close-faced cribwork, was built at the inner end of the breastwork. The cap of this block is flush with the break of the old work.

In 1904-5, one of the angles of the work was sheathed with 6-inch plank; the braces and upper timbers, for a distance of 160 feet, were painted with carbolinaeum avenarius; 450 cubic yards of stone ballast were besides placed in the work.

In 1905-6, a length of 40 feet of the breastwork was sheathed, and a length of 70 feet, where undermined, was filled, ballasted and levelled off; the approach to the wharf was raised and the top, for a length of 130 feet, was coated with carbolinaeum. Seventy cubic yards of ballast were besides placed in the work.

In 1906-7, the sheathing was patched and 138 cubic yards of ballast were placed in the work.

The expenditure for 1906-7 was \$499.27.

GREAT SALMON RIVER.

Great Salmon river, St. John county, is a small tidal inlet, eight miles east of Quaco. Shipments of lumber are made from this place to St. John.

A contract, for the construction of a breakwater for protection of the entrance to the harbour, was signed on July 27, 1905.

By June 30, 1906, the work was 136 feet long, 21 feet wide, and ten tiers high at the outer end.

In 1906-7, it was completed.

The expenditure to June 30, 1906, amounted to \$2,175.

The expenditure during 1906-7 was \$2,859.95.

HOPEWELL CAPE.

Hopewell Cape, in Albert county, near the mouth of the Petitcodiac and at the head of deep water navigation, is one of the several works intended for convenience of shipping in that large tidal river. Spring tides rise 45 feet.

For the use of vessels proceeding to Moncton, Hillsborough and Dorchester for cargoes, the department, in 1883, began the construction of a ballast wharf of round cribwork, 300 feet in length and 22 feet wide, which was completed in the following year. In 1885, the work was extended to the present length of 583 feet, by an addition built of square timber.

In 1901, the construction was begun by contract of a new wharf, intended to be 460 feet in total length, consisting of an approach of round cribwork, 210 feet long, together with square cribwork 250 feet long, which includes a pierhead, 50 by 35 feet on top and 48 feet high. By July 1, 1902, the cribwork and trestling of the approach

7-8 EDWARD VII., A. 1908

had been built and the pierhead had been brought up to the fifteenth tier, while the square cribwork had been extended to a total length of 210 feet.

During the fiscal year 1902-3, the work was brought up from the fifteenth to the forty-sixth tier or to the top and the wharf was completed. As spring tides rise 45 feet, a movable slip was, by request, placed on the pierhead, for convenience of the traffic at the varying stages of the tide. Brush and stone protection was also applied to the outside of the pierhead, the soft bottom of the Petitediac having scoured by action of the current. Some boulders scattered among the mud on the foreshore, where vessels lie at low water, were removed.

In 1906-7, two brush mattresses, from 4 to 4½ feet thick, well ballasted with stone, were laid to prevent scour at the new wharf, a result which was successfully accomplished.

The total expenditure to June 30, 1906, amounted to \$25,466.25.

The expenditure for 1906-7 was \$189.80.

LITTLE SALMON RIVER.

Little Salmon river, a tidal inlet in the Bay of Fundy, fourteen miles east of Quaco, in the county of St. John, is the site of a mill producing lumber to the value of about \$25,000 annually.

The beach protecting this little haven being in danger of denudation, a protection work, 430 feet long (with a groyne 92 feet long), of piles and planking, was built along the crest of the beach in 1902-3. In 1904-5, two new groynes, each 90 feet long, were built, and the original one, near the channel, was repaired.

In 1906-7, a new groyne of piles and planking, 70 feet long, was built, and two streaks of planking were placed along the protection work.

The expenditure during 1906-7 was \$247.81.

LORD'S COVE.

Lord's Cove, Charlotte county, a small fishing station on Deer island, is a port of call for steamers plying between St. Stephen, St. Andrews, Eastport and other points in Passamaquoddy bay. To afford facilities for this steamer, the construction of a wharf was begun in 1900-1. Spring tides rise 24 feet.

The wharf, without the approach, is intended to be a pile and trestle work, 328 feet long and 21 feet wide, with a pier-head, 33 feet in height.

During the fiscal year 1902-3, this wharf was extended to the back of the pier-head, a length of 120 feet by driving twelve bents and by completing the laying of the covering and the cap. A gallows-frame, ladder and flight of steps were also made, in order that the public might make immediate use of the wharf.

The work was then 289 feet long, exclusive of the stone approach, 28 feet in length.

In 1903-4, the pierhead (50 by 40 feet), was built, to which seventeen fenders and fifty-eight short braces remained to be applied. The work is now 328 feet long and 21 feet wide, with a pier-head, 35 feet in height. The wharf is approached by a stone embankment, 28 feet long and a rock cutting, 61 feet in length.

In 1904-5, the materials for a movable slip were ordered and in 1905-6 the slip was almost finished.

In 1906-7, the gearing was placed, the slip was completed and all the pile fenders, except three, were driven at the head of the pierhead. The sides are not yet fendered.

The expenditure to June 30, 1906, amounted to \$4,634.54.

The expenditure during 1906-7 was \$179.43.

MISCOU HARBOUR.

Miscou harbour lies between Miscou and Shippegan island, on the eastern side only a small passage, known as Miscou Gully, is left between the beaches extending

SESSIONAL PAPER No. 19

from the west, from Baie des Chaleurs, and has a depth in the channel of five to seven fathoms, at low water.

On April 27, 1904, the department entered into a contract for the construction of a wharf just inside the main entrance, on the Miscou side of the harbour. The contract price was \$13,700.

The work was begun in May and completed on October 14, 1905.

Its total length is 876 feet, it consists of a shore block 99 feet long and 20 feet wide; eighteen blocks 20 by 20 feet; nineteen spans of 20 feet; and a pierhead 40 by 30 feet, being 30 feet in the general direction of the work; all the round timber open cribwork.

An amount was included in the estimates for 1906-7 for the payment of the balance, \$2,540, due the contractors after the expenditure of the appropriation for 1905-6.

NEGRO POINT.

Negro Point, St. John county, is a headland about 60 feet above high water mark at the western entrance to St. John harbour, which is formed by the estuary of the River St. John on the northern side of the Bay of Fundy. Spring tides rise 25.33 feet; neaps, 15 to 20 feet.

In addition to convenience of position for distribution, by rail, of cargoes landed at the city of St. John, the harbour is remarkable principally for great tidal range, and for consequent freedom from ice during the winter months. The harbour is open, broadly speaking, from southeast to southwest, but southerly waves are broken by Partridge island, and southwest waves are mitigated by Negro Point breakwater, while the Foul Ground, a shoal tailing down from the peninsula on which the city is built, must have more or less effect in moderating the force of the easterly seas rolling round Mispec point.

By Partridge island, a rocky eminence devoted to quarantine and lighthouse purposes, the entrance of St. John harbour is divided into east and west channels. In the former or main channel, a minimum navigable depth of 19 feet is found on the bar at low water at ordinary spring tides. Two hundred yards inside the crest of the bar, a depth of five fathoms is obtained in the narrow fairway, while higher up and between the most southerly of the principal wharfs on either side of the harbour (450 yards wide at that point), twelve fathoms are given in mid-channel. The west channel, 10 to 14 feet deep at low water, and originally 1,200 yards wide, has been contracted to about as many feet in breadth by Negro Point breakwater which extends 2,200 feet S.E. by S. from the headland so styled.

The breakwater consisted, at first, of a cribwork core, 30 feet wide at the base, and 15 feet wide at the top (5 feet above high water ordinary spring tides), protected on both sides by large stones sloping to seaward at the rate of 2 to 1, and landward at the rate of 1 to 1. In the month of February, 1879, 1,300 lineal feet of cribwork were swept away to a depth varying between 13 and 19 feet from the top, the stones having been raked down by the wave action to a slope more nearly resembling the angle of repose of the material. In 1880, temporary repairs were made, and, in 1881, a contract, completed six years afterwards, was entered into, whereby the lost cribwork was replaced by heavy stones and the seaward slope made 3 to 1. Even this flatter inclination proved too steep for stability; consequently, notwithstanding their size, the stones, though smoothly laid, were soon displaced by the sea. A length of 50 feet of the breakwater, extending at full height beyond a masonry pier, built under the same contract to support a beacon, was also swept away. From 1891 to 1894 desultory repairs were made by the addition of large stones chiefly deposited about the end to prevent the lighthouse from being undermined.

In 1895 and 1897, heavy concrete blocks were laid.

In order to retain, for natural protection, along the seaward face of the work, the littoral drift formerly swept by the waves over the top into the harbour, a break of

7-8 EDWARD VII., A. 1908

piles, brush, stone and timber, 270 feet long, 8 feet wide and 4 feet high, begun in 1895, was completed in 1896-7, and was also extended 140 feet along the timber work in that year, with good effect. As a result of the construction of the break, the foreshore has advanced seaward, while the beach has increased in height and breadth.

During the year 1897-8, as a measure of precaution, 152 yards of granite were obtained and deposited about the lighthouse for protection during the winter, while stones previously removed by the sea were replaced in position.

The advance of the foreshore rendered necessary, in that year, the enlargement of the timber break, which was extended a distance of 80 feet along the breakwater.

A small groyne was also built for the purpose of obtaining some information as to the quantity of the littoral drift near the shore end. To preserve the timber the top of the piles and the knees of the break were given two coats of pitch.

One thousand and nineteen cubic yards of granite were supplied and laid in place in 1898-9, while 285 yards of the original stone of the work, displaced by the sea, were restored to position.

During 1899-1900, 414 cubic yards of granite were delivered and placed round the lighthouse. Six hundred and six cubic yards of dislodged stone were put back. Five concrete blocks, containing 52.1 cubic yards, were also laid in place.

In 1900-1, five blocks of concrete, aggregating 54½ cubic yards, were built in situ; 1,313 cubic yards of new granite were received and placed, while 1,893 cubic yards of the original stone of the breakwater, removed by the sea (which on November 8, 1900, made two clear breaches through the work) were restored to position. The timber break was also extended two tiers for a distance of 40 feet.

During the year 1901-2, 4,694 cubic yards of large stone principally granite, together with 719 cubic yards of small stone, were delivered and placed in position.

During the fiscal year 1902-3, 4,603 cubic yards of large, and 600 cubic yards of small stone were delivered and placed at Negro Point breakwater.

Until the work has either been extended to Partridge island or has received a permanent superstructure, constant repairs will be required.

In 1903-4, twelve blocks of concrete, aggregating 417 cubic yards, were made in place.

During the year 1904-5, 1,123 cubic yards of granite were delivered, a stone-breaker was hired, and the whole was crushed to the size required for concrete. Thirteen large blocks of concrete, aggregating 599 cubic yards, were made in place.

In 1905-6, 1,041 cubic yards of granite were delivered, a stone crusher and engine were purchased and the whole of the stone crushed to the size required for concrete. Twenty-four blocks of concrete, equal to 788.6 cubic yards, were made in place; bags of concrete were placed beneath blocks which were undermined, other blocks were backed up with the original stone of the breakwater, scows were caulked and repaired and the whole of the plant maintained and kept in order.

In 1906-7, 1,002 cubic yards of granite, of random size, were delivered and crushed to the proper dimension for making concrete, and fourteen large blocks of concrete, aggregating 560.3 cubic yards, were made in place. Thirteen hundred barrels of cement and a new concrete mixer were purchased; a new scow, to carry materials for concrete, from the shore to the breakwater, was built and the whole of the plant was overhauled and repaired.

The expenditure to June 30, 1906, amounted to \$567,401.36.

The expenditure during 1906-7 was \$19,357.25.

NORTH HEAD.

At Flag Cove, near North Head, in Grand Manan, an island forming part of the county of Charlotte, and lying twenty-four miles south of St. Andrews, but double that distance from St. John, a wharf, known as Dixon's was purchased by the department.

SESSIONAL PAPER No. 19

Contract plans and specifications have been prepared for the extension of it as a public wharf.

In 1906-7, some ballasting was done to secure this wharf for the winter, the expenditure being \$44.50, not including the purchase money.

Total expenditure during 1906-7, \$2,249.17.

NORTHWEST MIRAMICHI.

The Northwest Miramichi, an important lumbering river, unites with the southwest Miramichi to form the Miramichi river proper, about one mile above Newcastle, or twenty-one miles above the mouth in Miramichi bay. At the junction of the two branches, the river is about three-eighths of a mile wide.

The Northeast Miramichi is generally navigable for light draught tugs and river steamers to Redbank, twelve miles above the junction, and for sea-going vessels to 'Sinclair's,' at the Northwest Miramichi bridge, three miles above Newcastle.

About one and a half miles above Newcastle, a bar occurs over which is a depth of only 13½ feet at low water and 19½ feet at high water of spring tides, and on which lumber steamers loaded at Sinclair's often ground.

Work by the *Peter England* dredge began here on June 25, 1906-7, by the 30th, 518 cubic yards of material had been removed.

The dredging was continued during the past fiscal year, when about 5,232 cubic yards of sand was removed. A number of sunken trees and logs were also taken out of the channel which probably, by the accumulation of sand about them, cause the lumps which were most complained of. Work was discontinued on September 22. A considerable improvement has been made in the channel.

The expenditure for the fiscal year 1906-7 was \$2,239.62.

OAK POINT.

Oak Point is situated on the north side of the Miramichi river, eleven miles below Chatham.

To provide a landing place for the river steamer and shipping facilities for the district, a contract was entered into on October 23, 1906, with Mr. T. P. Charleson for the construction of a wharf at Oak Point.

The proposed work is to be 470 feet long with 8 feet at low water at the pier-head, and will consist of 10 blocks 20 feet square, eleven spans of 20 feet, and a pier-head 30 by 50 feet.

The contract price is \$7,200.

Construction work has not begun.

Expenditure during fiscal year of 1906-7, \$209.96.

PARTRIDGE ISLAND, ST. JOHN.

In order to furnish Partridge island, the lighthouse and quarantine station, at the entrance of the harbour, with a water supply, an agreement was made with the corporation of St. John whereby it extended the pipe line, in 1904, from St. John street to H. W. mark, below Fort Dufferin. The work was completed in November of that year. The department paid \$4,067.74, being three-quarters of the cost, the corporation doing the work of construction and continuing to maintain that part of the pipe line.

On Partridge island the department, in that year, excavated 2,032 lineal feet of standard trench, almost entirely in rock. Three thousand six hundred lineal feet of 6-inch extra heavy galvanized wrought iron pipe were purchased, together with 202 flexible ball joints. Two thousand three hundred lineal feet of cast-iron pipe were also delivered, together with six valves and the same number of tees and hydrants.

7-8 EDWARD VII., A. 1908

In 1905-6 nine hundred and forty-six lineal feet of cast-iron pipe were laid, together with 3,253 lineal feet of wrought iron pipe with flexible joints, which were laid under water across the west channel of the harbour of St. John. Water was turned on in February.

In 1906-7, 1,719 lineal feet of trench were excavated, principally in the rock to the full depth; 2,332 lineal feet of 6-inch pipe were laid, together with 936 lineal feet of service pipe. Three thousand three hundred and thirty-two lineal feet of trench were back-filled; eleven hydrants, nine gates and one blow-off valve was placed. At the disinfecting house the pipe was boxed with concrete $2\frac{1}{2}$ feet square for 30 feet in length. Two concrete retaining walls, both $3\frac{1}{2}$ feet thick, one 18 feet long and 12 feet high, the other 12 feet long and 8 feet high, were built, and all the gates and the blow-off valve were boxed. The pipes were carried and connections were made with all the buildings, the medical officer's house and the fog whistle.

During severe frost, on February 24, the submerged pipe, which lies on the bottom of the west channel, was found to be frozen. The temperature of the sea water, taken at the time, was 31 degrees Fahrenheit.

The total expenditure to June 30, 1906, amounted to \$42,323.93.

The expenditure during 1906-7 was \$12,999.42.

PETIT ROCHER.

Petit Rocher is a farming, fishing and lumbering settlement on the southwestern side of Baie des Chaleurs, twelve miles north of Bathurst.

To afford protection to the fishing boats and vessels trading in Baie des Chaleurs, for which there is no natural shelter in the vicinity, and to facilitate the shipment of lumber, a contract was entered into May 31, 1904, with Simon McGregor, for the construction of a breakwater, consisting of a main work, 209 feet long on the outer face, and a wing or 'L,' placed at an angle of 74 degrees 30 minutes with the main part, 160 feet long on the outer face. The width on top will be 30 feet. At its inner end the breakwater will be 480 feet from the shore. The depth along the inner face varies from 11 to $18\frac{1}{2}$ feet at low water.

In 1904-5, a right of way, 860 feet long, from the public road to the shore was opened up, graded and fenced.

The contract work was begun on March 18, 1905, and by the end of 1904-5 two cribs, $96\frac{1}{2}$ and 41 feet long respectively, had been built and sunk in place.

A crib to form the remainder of the work was started on February 19, 1906, but on March 11, when it had reached a height of about six tiers, it was carried away by the ice. It was, however, recovered on May 14. The outer section, which was intended to complete the main part of the breakwater was found to be intact and work on it was resumed. By the end of the fiscal year this crib had been built to a height of nineteen tiers and the two cribs sunk in 1905 had been filled with ballast and built up to half tide level, and the upper ballast floors were laid.

During the fiscal year 1906-7, the crib forming the remainder of the main work was sunk in place and a crib to complete the 'L' was begun and placed in position. The building of the superstructure was continued on the main part up to about high water level, when two storms, on November 12 and 16 carried away nearly the whole top, the break being about 9 feet in extreme depth.

Work was resumed on March 7, and by the close of the fiscal year the remains of three damaged tiers of face timbers had been removed, and a part of the wrecked superstructure near the southern end rebuilt, the interior being filled with ballast.

The expenditure for the fiscal year 1906-7 was \$5,029.60.

POINT DU CHÉNE.

Point du Chêne lies on the western side of Northumberland straits and on the south side of Shediac harbour. It is the terminus of a branch line of the Intercolonial

SESSIONAL PAPER No. 19

railway and for the steamer *Empress* running during the season of navigation from Summerside, P.E.I.

The works at Point du Chêne consist of two breakwaters, an inner and an outer each 600 feet long, with an opening between of 80 feet, and a ballast wharf 200 feet long connecting the outer breakwater with the Intercolonial railway wharf. They have been repaired or rebuilt at various times.

A storm on November 14, 1904, carried away the covering, stringers and sheathing for a length of 150 feet near the outer end of the outer breakwater. The greater part of the remaining timbers of this section were removed down to near low water level before June 30, 1905, during the fiscal year 1905-6, rebuilding with a close vertical face was in progress. The new work started at low tide level with a length of about 130 feet and was completed, except for the covering and cap for a length of 100 feet at the top. Some 3,298 cubic yards of mixed stone were deposited to form a stone slope outside the outer breakwater and 64,300 F.B.M. creosoted timber was procured.

During the fiscal year 1906-7, the remaining section of the break, about 40 feet long, was built up with a vertical face, and the covering and cap were laid and the whole portion rebuilt, about 150 feet long, which was first filled with field stone.

A block, with close-faces of creosoted timber, was built at the outer end of the outer breakwater to retain the stone slope. It was about 15 feet high, and was being sunk in place when heavy storm in November forced it about 30 feet out of position and into the channel. After a number of attempts it was replaced, on Sunday, December 30, by the Intercolonial railway wrecking crane, a diver being employed to make fast to the lower timber the chain, &c., used in moving it.

Construction was then resumed and by March 31, the placing of hardwood fenders and iron straps at the outer corners only remained to complete the block.

During 1906-7, 1,376 cubic yards of large and mixed stone were placed along the outer face of the outer breakwater, and the rough slope was levelled off preparatory to covering it with a laid slope of large blocks.

The expenditure for the fiscal year was \$8,420.78.

RICHIBUCTO.

Richibucto harbour lies on the eastern side of Northumberland straits, about twenty-six miles north of Shediac. It is one of the New Brunswick deal ports, and the terminus of the Kent Northern Railway.

The works originally proposed were two breakwaters extending from the points of the sandy beaches at the entrance to the harbour to confine the current to one permanent channel and cut through the bar by scour.

In 1873 and 1874, works were commenced by the construction of a breakwater or pier, 1,200 feet long off the north beach. This was subsequently extended westward at different times to stop erosion of the beach, till 1891 when a total length of 2,158 feet had been built.

Between 1891 and 1903, in consequence of damage and decay, repairs and reconstruction were carried on at different sections of the work, and a number of groynes and breastworks were built from both the outside and inside of the main work to protect the latter and raise the beach.

In 1903-4, an extension 315 feet long was completed by contract. It starts at a point on the breakwater 300 feet from the original outer end and runs diagonally across the channel.

On November 16, 1905, a contract for a further extension of 300 feet in the same direction was entered into; the contract price is \$17,000.

The extension consists of brush mattresses, weighted with small stone, through which three rows of piles, 5 feet apart, are driven, and on which a rubble mound is laid 12 feet wide on top, finished with large stone sloping at the rate of 2 to 1 on the sides.

Work began on May 1, 1906, and by June 30, 1906, 238 fascines from 40 to 72 feet long and one mattress had been constructed and a second mattress begun.

7-8 EDWARD VII., A. 1908

At the close of the fiscal year 1906-7, the lower mattresses had been placed for the full length of the work, and extra mattresses, on account of scour of the bottom by the current, to make up the required height, also two of the upper mattresses, and all were weighted with small stone. The piles were driven for a length of 171 feet from the beginning of the work, and the core stone was laid for about the same distance. The placing of slope stone was begun at the inner end.

The expenditure for the fiscal year 1906-7 was \$3,683.

RIVER ST. JOHN AND TRIBUTARIES.

The River St. John, proper, 450 miles long, takes its rise from the sources in the province of Quebec and the state of Maine, at reputed maximum altitude of 2,159 feet above sea level. Entering New Brunswick at the confluence of the St. Francis, a little below the borders of Quebec, it continues to be the international boundary almost to Grand Falls, and after flowing through the province for nearly 300 miles (by way of the counties of Madawaska, Victoria, Carleton, York, Sunbury, King's and Queen's) discharges into the Bay of Fundy at St. John. Many tributaries, some being of considerable magnitude, are received by the main stream. Among them are the St. Francis, Madawaska, Green river, Grand river, Salmon river, Aroostook, Tobique, Presq'île, Meduxnakeag, Nackawick, Eel river, Keswick, Nashwaak, Oromocto, Jemseg (Grand lake), Washademoak, Belleisle, Kenebecasis. Except the last five, which are slightly tidal for some distance, they are fresh water streams.

The total basin, from source to mouth, is computed to be 26,000 square miles, an area almost equal to the whole of New Brunswick, but as a part of the watershed lies outside, only a little more than one-half the province is drained by the river. The St. John is considered navigable for vessels 15 feet in draught for a distance of more than fifty miles from the mouth, but no positive information on this point has yet been obtained. About 8 feet at low water can be carried to Fredericton, eighty-four miles from the sea, and six miles below the head of tide at Springhill. Three natural features of the river are remarkable, viz.: The tidal falls, Grand falls and the annual floods.

Although in summer the fresh water stream between Woodstock and Fredericton is in places 400 to 1,000 feet wide, expanding at the latter place, after reaching tide-level, to half a mile in breadth, yet the actual mouth of the river (a rocky gorge 400 yards long, immediately at the head of St. John harbour), measures but as many feet across at high water. Here at low water, the level of the river is from 11 to 15 feet above the sea, and as the ordinary tides flow from 23 to 27 feet, the sea level at high water is from 8 to 13 feet higher than the waters of the river. Thus there are two falls at every tide, viz., one outward and one inward, and vessels can only pass when the waters of the ocean and the river are on a level. This occurs only for a space of about ten minutes during each ebb and flow of the tide; at all other times it is either impassable or extremely dangerous. (Admiralty sailing directions.)

At Grand Falls 223 miles from the sea, the whole volume of the river plunges over an almost perpendicular face of limestone, 60 feet high into a deep ravine 200 feet across, somewhat similar to the narrow pass at St. John. Flanked for nearly a mile by lofty rugged cliffs, the confined current dashes from the foot of the falls with excessive strength, mining deep pot-holes in the rocky bottom of the channel in the course of a further descent, estimated to be slightly less than the first. In the harbour of St. John, ordinary spring tides are considered to rise $25\frac{1}{2}$ feet. At the wharfs of the river steamers, a mile above the falls, while summer range is about 3 feet, the highest flood mark is given as 17 feet above extreme low water. At Oromocto, seventy-three miles from the sea (where the tidal range is from 10 to 12 inches) the flood of 1887 reached a bridge 20 feet above low water. At Andover, 200 miles from the sea, floods attain an elevation of more than 27 feet above summer level. By contrast, the Tobique and St. Francis swell 9 and 6 feet respectively. After the first spate, due to the melting of the snow in the catchment basins of the Kennebecasis, Belleisle bay and Washade-

SESSIONAL PAPER No. 19

moak, a secondary flood occurs, caused by the back water of the main river, which is fed from sources further north, and consequently later in thawing.

The harbour of St. John is open all the year round, but the river is ice-bound from November to April, an average period of 144 days. The water usually begins to rise in April, reaching flood pitch early in May, and maintaining a high level for two or three weeks. By the middle or end of July, the water has fallen to summer level, a stage lasting with some variations dependent upon the rainfall, for about sixty or seventy days.

In addition to a little coal, a considerable quantity of cordwood and the ordinary food supplies yielded by the farms of a lengthy fertile valley, the trade of the river comprehends an abundance of valuable timber, fluctuating each season in amount, but generally at least equal to 135,000,000 superficial feet annually. Most of the logs are floated loose down the tributaries and upper river to Fredericton, some being manufactured there and shipped coastwise or to the United States. The remainder, or major part, is towed from the provincial capital to St. John in rafts, giving employment to a fleet of tugs.

For the purpose of works, three divisions may be made of the river:—

1. Tidal navigation, for steamers and sailing vessels between St. John and Fredericton, eighty-four miles, requiring 11 feet at low water.
2. Inland navigation, from Fredericton to Woodstock, a distance of about sixty miles, requiring three and a half feet of low water.
3. The Upper river, including, with the tributaries, all that part above Woodstock. This division is now used for the passage of timber only. On some of the tributaries beyond the reach of the railways, supplies for the lumber camps are transported in towboats, for which channels are required to be made and tow-paths provided.

River St. John Tidal Navigation.—The tidal section of the River St. John comprehends, besides the main stream, navigable by steamers which run daily between St. John and Fredericton, a distance of eighty-four miles, four tidal arms, all navigable by wood boats and regular passenger steamers, the extent of the whole tidal navigation being as follows:—

Main River St. John.	84 miles long.
Kennebecasis.	24 “
Belleisle Bay.	12 “
Washademoak Lake.	27 “
Grand Lake and Salmon River.	35 “

Total extent. 182 miles.

For the convenience of steamers and other craft navigating the main river and its branches, the provincial government has erected a number of wharfs, towards which the department has made contributions amounting to one-half the certified cost.

During the year 1901-2, assistance was given to a number of these wharfs, \$3,000 being available for that purpose, while in the fiscal year 1902-3, \$4,813.14 was applied to the same object.

In 1905-6, contributions aggregating \$3,293.82 were made by the department to six of these wharfs.

LOWER LINCOLN.

(Sunbury).—In 1905-6, the wharf at Lower Lincoln was repaired. The body of the wharf, 55 feet long and 40 feet wide, received some ballast, new stringers and new covering. The sloping-face, 95 feet long, was given new sheathing throughout. The approach, 55 feet long and 20 feet wide, was made up with earth, brush and gravel. Two new mooring-posts, four ring-bolts were placed in position. A new cap-timber, 55 feet long, was placed on the river face. The expenditure amounted to \$274.74.

In 1906-7, the top was temporarily secured to prevent it from being carried away during the freshets, at a cost of \$14.50.

7-8 EDWARD VII., A. 1908

RIVER ST. JOHN UPPER.

The Upper river, comprehending many branches, including the Tobique, Green River, St. Francis, &c., &c., extends from Woodstock to the northwestern boundary of the province. Navigation on the upper river is confined to the passage of timber and rafts, or the tow-boats which convey supplies up the streams, from the end of the railways to the lumber camps, situated beyond the lines of ordinary communication.

TOBIQUE.

McAskill's (Victoria).—A cribwork dam, 395 feet long, 8 feet wide and 6 feet high, of elm and ash logs, was built and ballasted.

The expenditure during the year amounted to \$424.25.

William Miller's (Victoria).—At this place a cribwork wharf, 356 feet long, 18 feet wide and 7 feet high, was built and ballasted by an expenditure of \$468.45.

Right Hand Branch (Victoria).—Between a point two miles below Trousers lake and the mouth of Trousers lake branch, a distance of ten miles, 265 boulders, equal to 500 cubic yards, were blasted; about 1,000 cubic yards of loose rock were hauled ashore and a tow-path, 6 feet wide, was cut on one side of the stream for a distance of ten miles.

The expenditure during the year amounted to \$500.

SISSON BRANCH FALLS.

(Victoria).—The apron of a dam, at the first pitch below the falls, was repaired by the insertion of four spruce stringers, 40 feet long, and eight cross-ties; the apron of the dam at the second pitch below the falls was repaired in a similar manner, and both were covered with 140 spruce poles. A pier, at the front of the falls, was also repaired and ballasted.

The expenditure for the year amounted to \$200.

MAIN RIVER.

Aroostook to River de Chute (Victoria).—On the main river St. John, at the mouth of the Tobique, three rocks, aggregating 53 cubic yards, were blasted.

The expenditure for the year amounted to \$99.

Grand Falls to Aroostook (Victoria).—Between these points, on the main River St. John, the following blasting was done:—

At Rapide de Femme, 2 rocks.	18 cubic yards
At White's Rapid, 3 rocks.	23 "
Total.	41 cubic yards

This expenditure for the year amounted to \$100.

GRAND FALLS (VICTORIA).

At Grenier's Eddy, at Grand Falls on the main River St. John, cribwork, 54 feet long, 12 feet high, 14 feet wide at the top and 28 feet wide at the bottom, sheathed on one side with 3-inch birch plank, was built and ballasted with stone blasted from the Narrows. Leading to Grenier's Eddy, a tow-path, 330 feet long and 16 feet wide, was cleared and built, the lower side being filled with logs and earth, and the stumps being removed.

The expenditure during the year amounted to \$600.

SESSIONAL PAPER No. 19

LITTLE RIVER FALLS (VICTORIA).

At this place, which is near Grand Falls, a cribwork pier, 60 feet long, 8 feet wide and 5 feet high, was built. Twenty-seven rocks aggregating 42 cubic yards, were besides blasted.

The expenditure during the year amounted to \$150.

GREEN RIVER (MADAWASKA).

A tow-path, 5 feet wide, was made from a point four miles above the mouth of Little Forks, Green river, for a distance of seven miles upstream; for the same distance the bed of the stream was cleared of stumps and trees, which were hauled to the bank. A pier, 30 feet long, 10 feet wide, and 5 feet high, was built of spruce logs, and an old dam (eleven miles from the mouth), 160 feet long and 8 feet high, was repaired with logs and poles, which were faced with earth.

The expenditure for the year amounted to \$300.

IROQUOIS RIVER (MADAWASKA).

At Corriveau's rapids, one mile from the mouth of the Iroquois, 124 rocks, equal to 69 cubic yards, were blasted and hauled from the bed of the stream to the banks.

The expenditure during the year amounted to \$100.

EDMUNSTON (MADAWASKA).

The top of the cribwork protection, 465 feet long and 8 feet wide, was raised 1½ feet.

The expenditure during the year amounted to \$300.

ST. FRANCIS RIVER (MADAWASKA).

At Cross Lake rapids, a channel, 200 yards long, 25 feet wide and from 3 to 4 feet deep, was excavated, and at the same place, forty-two boulders, equal to 67 cubic yards, were blasted in the channel and hauled to the bank. At Horse Back rapids, a channel, 110 feet long, 25 feet wide, 4 feet deep, was made. Through Gendreau bar, a channel, 60 feet long, 25 feet wide, 4 feet deep, was made, while through Jones' bar, a channel of similar width and depth, but 70 feet in length, was scraped. At the same place, three boulders, equal to 8 cubic yards of rock, were blasted.

The expenditure during the year amounted to \$300.

The whole expenditure on the Upper river amounted to \$3,717.45 for works, and for pay and expenses of the foreman, \$588.08, during the year 1906-7.

Exclusive of the cost of dredging, the total expenditure on the River St. John, to June 30, 1906, amounted to \$188,529.82, and inclusive of dredging, to \$488,839.78.

The whole expenditure on the River St. John and tributaries, during 1906-7, amounted to \$5,653.35, for works, and, to \$8,724.05, for dredging.

SAND POINT (ST. JOHN HARBOUR).

On September 30, 1905, a contract was let for excavation of a portion of Sand Point Slip, to a depth of 30 feet below low water, in order that the corporation might provide a new berth for the winter port traffic. Work was begun on October 9, 1905.

On account of the presence of large boulders in the clay, difficulties were experienced by the contractor, and many breakdowns occurred in attempting to lift them, owing to the tenacity of the material in which they were embedded, and also on account of their great weight.

By June 30, 1906, 200,095 cubic yards of material had been excavated.

During 1906-7, 96,756 cubic yards were excavated.

On September 21, 1906, another contract, for additional work, was let in consequence of the request of the corporation of St. John.

7-8 EDWARD VII., A. 1908

Under the second contract 72,523 cubic yards of ordinary spoil and boulders were excavated during the fiscal year 1906-7.

The expenditure during the year 1906-7 was \$46,115.49.

SHIPPIGAN GULLY.

Shippigan Gully, a passage between Shippigan island and the mainland, much used by fishing and other vessels in passing from Baie des Chaleurs to the Gulf of St. Lawrence, is situated fifty-six miles east of Bathurst, the shiretown of the county, and three miles from Shippigan, the terminus of the Caraquet Railway.

Works were commenced in 1875, for the purpose of improving the channel at the gully:—First (1875-9) by constructing a breakwater on the east side, and a dam to close what was known as the east gully; repairs and extensions of the dam and breakwater were in progress during 1880-4, 1886-7, 1888-92, and 1893-4. Secondly, in 1890-2, by building a breakwater off the west beach—this was repaired in 1892-4. Thirdly, between 1897 and 1905, by constructing beach protection works on both sides of the harbour, closing all runnels which might enlarge or cause dangerous gaps in the beach, and building groynes to promote accumulation of sand and gravel for the protection of the work. During this period also general repairs were carried on and a new pile pierhead, 44 by 34 feet, was built as an extension to the eastern breakwater.

At the commencement of the works, the depth at the entrance was only $3\frac{1}{2}$ feet at low water. In 1898 it had increased to nearly $6\frac{1}{2}$ feet, and by a survey made in 1903-4, it was shown that the concentration of the current in one channel by the construction of the breakwaters and other works had increased the depth to about 8 feet at low water or 13.8 feet at high water of spring tides.

In 1904-5, a pile block, 77 feet long on the centre line, and 24 feet 4 inches in extreme width, was built on the inside of the west breakwater, 86 feet from the outer end. This will protect the breakwater from the ice of Shippigan harbour which strikes here with great force when carried by the ebb tide and strong winds, and will tend to deflect the current and straighten the channel which now makes a sharp double bend just inside the entrance.

The block was completed during the fiscal year 1906-7, by the addition of part of the covering, two ladders, and about 35 cubic yards of ballast.

Repairs to the inner face of the western breakwater were begun in 1905-6, between the new block and the outer end. These were completed during 1906-7 by driving and securing 66 hardwood close piles.

During 1906-7, on the outer face, for a length of 191 feet near the outer end, the old decayed close piles were removed and new close piling driven, 213 piles being required. An additional 10 by 12 waling was placed inside the piles and the old waling, where decayed, was renewed. A large quantity of brush and about 430 cubic yards of stone were placed inside the work, filling it to within 3 feet of the covering. In relaying the covering about 4,000 F.M.B. of new 4-inch plank used. Two groynes were cut down to prevent their being lifted by the ice, and additional brush was placed in the low points of the breastwork on the west beach.

The expenditure for the fiscal year 1906-7 was \$2,999.96.

SHIPPIGAN HARBOUR.

Shippigan is a village and settlement of about 1,000 inhabitants, situated on the mainland just opposite Shippigan island. It is distant by rail sixty-five miles from Bathurst, twenty from Caraquet, twenty-four from Tracadie, and is three miles from Shippigan Gully.

Between the village and Shippigan island is a fine harbour about seven miles long, north and south, and from two-thirds of a mile to five miles wide, opening into the Baie des Chaleurs on the north through Shippigan channel, about two miles wide, and

SESSIONAL PAPER No. 19

into the Gulf of St. Lawrence on the south through Shippigan gully, 720 feet wide between breakwaters.

On December 29, 1905, the department entered into a contract for the construction of a wharf at the terminus of the Caraquet Railway, which is central as regards population, near deep water, and a convenient point for passage to Shippigan and Miscou islands.

The wharf is 900 feet long, and consists of a shore block 245 by 25 feet, 13 blocks 25 feet square, 14 spans of 20 feet, and a pierhead 50 feet by 30 feet.

The contract price was \$15,940.

Construction was begun on May 4, 1906, and by June 30 the outer 48 feet on the shore block had been built about 4 feet high. The cribs of blocks 3 to 12 inclusive, had been sunk in place and built to an average height of about 6 feet, and the cribs of the pierhead and block 13 were begun.

The wharf was completed on November 30, 1906, and on December 10 an agreement was made with Mr. Charleson for the construction of a 25-ft. extension to the pier head, for close piling the outer face and corners, sheathing part of the end face, and placing iron straps around and screw bolts through the end corners of the pierhead. The cost of the extra work is \$2,000.

The extension was begun on December 18, and by March 31, 1907, it had been built to a height of 16 feet 9 inches, at the outer corner.

The expenditure for the fiscal year 1906-7 was \$14,617.50.

STONEHAVEN.

Stonehaven, formerly Clifton, is situated on the south side of Baie des Chaleurs, eighteen miles east of Bathurst. The breakwater at this place, originally 425 feet long and built by private persons, was acquired by the department in 1878. During this same year it was extended 325 feet. The outer 220 feet is placed at an angle of 72 with the shore portion.

The harbour affords shelter for fishing vessels and for schooners engaged in the export of grindstones, &c., the depth at low water being 7 to 8 feet. Spring tides rise 7 feet.

Between 1886-88, and 1891-93 and annually since 1897, general repairs have been made to the work, and large stones of from one-half to one cubic yard in bulk, have been placed along the northern and eastern faces. To prevent these being swept around the end of the work a close-face cribwork block, 70 by 40 feet, was built in the year 1901-3, at the westerly end of the 'L.'

In 1905-6, a new pier was begun to protect the harbour from westerly storms. It starts at the shore, 225 feet westerly of the present work, and runs towards the end block of the old breakwater. An entrance 120 feet wide is left between the two works.

The new pier consists of an approach, 254 feet long and 15 feet wide on top, of round timber cribwork, sheathed on the inside with 3-inch hardwood plank, and a pierhead with faces of square timber 50 by 30 feet.

The timber work was completed during 1905-6, and a stone slope faced with close laid granite blocks, which is to protect the outer side of the approach was constructed for a length of 90 feet.

During the fiscal year 1906-7, the stone slope of the new pier was completed; about 195 cubic yards of small and 75 of large stone were placed outside the pierhead, and 16 fenders around the end block of the old work.

Six hundred and fifty-six cubic yards of small stone and 334½ of large, were bough during the year.

The expenditure was \$1,999.99.

7-8 EDWARD VII., A. 1908

TYNEMOUTH CREEK.

Tynemouth Creek, St. John county, twenty-one miles east of the city of St. John, is one of the several small havens, dry at low water, found on both shores of the Bay of Fundy, which are only useful on account of the high range of tide. Tides rise here about 28 feet. Inside a beach of gravel and stones, is a tidal basin, accessible to small vessels at high water by an opening at the east end of the beach.

In 1874-5, the department built a substantial cribwork pier on the rocky fore-shore of the eastern cliff to prevent vessels from taking ground on that side.

In 1882-3, another work, to maintain the channel, was built on the point of the beach on the opposite side.

In 1894-5, a sum of \$225 was applied to replacing some of the fenders and covering of the east pier and to removing part of the rocky ledge obstructing the channel.

In 1897-8, a sum of \$510 was expended in removing 813 cubic yards of shingle from a shoal obstructing the entrance, and in effecting minor repairs to the west pier.

The harbour is constituted by a long beach stretching from the western side of the inlet. By heavy gales, the crest of the beach was cut down almost 5 feet for a length of 300 feet.

In 1900-1, to prevent this beach from being lowered and the harbour from being endangered, a protection work of piles and planks, from which three groynes, 41 feet long, projected, was built for a length of 345 feet. At the cribwork groyne, of the west pier, a block, 68 feet long, over all and 16 feet wide, repairs were made for a length of 52 feet; new ballast floors were inserted; new ballast was placed in the work, and the top was given new stringers, and in great part, new covering, besides 10 new fenders. The remainder of the covering of the west pier was also patched in places.

At the east pier, chocks were inserted between started face-timbers, to retain the ballast; thirteen new fenders were placed and the break was repaired.

During the fiscal year 1903-4, repairs were effected.

In 1904-5, general repairs were made principally to the west pier, a part of which was raised 5 feet, ballasted, fendered and covered. At low water, the channel which curved sharply was strengthened, and the shingle banks were protected with brush and stone. Large stones were removed from the beach and the channel was much improved.

The expenditure during 1906-7 was \$7.55.

WILSON'S BEACH.

At Wilson's Beach, a fishing settlement in a slight indentation of the coast on the west side of Campobello, an island in the Bay of Fundy, forming a part of the county of Charlotte, a breakwater, 373 feet in length, was built, to shelter the cove, by the joint contributions of the federal and provincial governments between the years 1874 and 1878. The outer arm of the breakwater having become dilapidated, and the cove having been silted up, preparations were made in 1899-1900 to restore the inner end, 284 feet in length, and the repairs were nearly completed in the following year, 1900-1. A quantity of materials was also procured for the construction, in deep water, of the dismantled outer end.

In 1901-2, the repairs to the inner end were completed.

In the fiscal year 1902-3, crib No. 1 was increased 130 feet in length on the outside and raised at the inner end to the 26th, and at the outer end to the 23rd tier. Crib No. 2 was brought up to the 23rd tier.

In 1903-4, the superstructure of crib No. 1 was completed, while the top of crib No. 2 was brought up to the full height, with the exception of the benching required to be left for making connection with Crib No. 3, which was begun and brought up to the tenth tier in height.

SESSIONAL PAPER No. 19

By the end of 1904-5, crib No. 3 had been built, sunk in place, brought up to the height of the third floor and ballasted, and the work had been covered to within 85 feet of the end,

During 1906-7, the tops of the fenders of Crib No. 1, ranging from 12 to 20 feet in length, were placed; crib No. 3 was built up eleven tiers in height, without including the cap, was ballasted and covered; the fenders were completed on Crib No. 2. Three mooring-posts were placed in Crib No. 3, and a movable slip with hoisting gear was built. The upper works were painted with carbolinaeum. With the exception of the spiking, the work is completed.

The expenditure to June 30, 1906, amounted to \$40,534.09.

The expenditure during 1906-7 was \$1,524.37.

PROVINCE OF QUEBEC.

AMHERST.

Magdalen Islands.

The pier had to be raised from $\frac{1}{2}$ to $1\frac{1}{2}$ feet for a length of 200 feet. The north-western outside corner, damaged by steamer, had to be repaired, stone ballast placed outside the mooring posts, guards and fenders painted. The schooner wrecked in channel was removed.

Expenditure during the last fiscal year, \$1,050.19.

ANSE À BENJAMIN.

L'Anse à Benjamin, at St. Alphonse, is situated on the west side of Ha! Ha! Bay, River Saugenay, in the county of Chicoutimi.

The work done during the fiscal year 1906-7 was the continuation of the blasting and the removal of boulders.

Expenditure, \$977.08.

ANSE À LA CAVE.

Anse à la Cave, or Bon Désir, in the municipality of Les Bergeronnes, is situated on the north shore of the St. Lawrence, five miles east of Les Bergeronnes village.

The Bay of Anse à la Cave or Bon Désir is much frequented by schooners loading cordwood and timber. The entrance to the bay being obstructed by boulders, some of them were removed.

Expenditure in 1903-4, \$191.

During the fiscal year 1906-7, few boulders were blasted and removed. Expenditure, \$200.88.

ANSE À L'ISLOT.

Anse à l'Islet is a small harbour, seven miles east of Newport, protected from the northerly and easterly winds by the main coast, and from the southwest gales by a small island, being thus open only to southerly gales.

It was decided to build a landing pier, running from the main shore towards the outside end of the island, in a southwesterly direction, answering both as a landing pier and as a breakwater against southerly gales.

During the fiscal year 1905-6, timber was bought for the proposed work to the amount of \$996.55.

During the last fiscal year two cribs, 90 feet long each, were built. The first had shortly been placed into position, when a very severe southerly storm turned it out of

7-8 EDWARD VII., A. 1908

position and brought the second ashore where it was demolished. The first crib had to be entirely unloaded and brought ashore. During the months of February and March a crib, 90 feet long, was built and placed into position, in 16 feet of water, at low tide, and built up to coping.

Expenditure during 1906-7, \$2,999.57.

ANSE AU GRIFFOND.

Anse au Griffond is seventeen miles northwest of Gaspé cape. The mouth of the river, having choked and closed up by a gravel bar thrown in by northeasterly gales, overflowed the flats and part of the village, causing a good deal of damage to properties and to the fishing industry. The new channel running easterly inside of the gravel bar had to be closed by a training pier, 345 feet long by an average of 11 feet high and 22 feet wide, with brush and stone backing.

The gravel bar, 10 to 12 feet high and 170 feet wide, had to be cut through to continue the training pier and to open a new channel. A channel of 600 feet, giving 440 cubic yards of earth, had to be made at some distance above the work, so as to take the water from a small tributary into the main river, above the works under construction. 390 feet of the west or left hand side training pier has been built and secured.

Expenditure during the last fiscal year, \$1,341.74.

ANSE ST. JEAN.

Anse St. Jean is situated on the north shore of the Saguenay river, twenty-five miles above its mouth.

The public landing pier at this place was commenced by the local government in 1876, and continued by federal government in the years 1879-80-81.

In 1880-1, the upper part of the pier was completed, at the expenditure of \$1,091.72.

During the years 1884-5, the pier was repaired. Expenditure, \$94.45.

During the year 1886-7, the sum of \$865.28 was expended on the construction of a movable slip, building an open shed, 40 by 28 feet, and renewing part of the flooring.

In 1890-1, the portion of the wharf which settled in the spring of 1889, was raised from 2½ to 3 feet, over a length of 135 feet, and the flooring was renewed; a quantity of stone was placed in the eastern portion of the wharf and the shed was repaired. Expenditure, \$999.42.

During the years 1896 up to 1897, repairs were made, the flooring completed and the eastern face of the cribwork completed, at an expenditure of \$1,963.75.

During the year 1899, a landing slip was built on the eastern side of the pier, at a cost of \$1,000.27.

In 1899-1900, 50 feet of the outer end was sheathed and 200 feet of the flooring was renewed with 3-inch spruce and the shed was painted. Expenditure, \$501.

During the year 1902-3, the work done consisted of general repairs to the flooring, a new slip, sheathing and repairs to the shed. Amount of expenditure, \$657.91.

During the year 1903-4, 24 feet in length by 50 feet in width and 34 feet high was sunk in 13 feet depth at low water spring tides. Expenditure, \$3,048.04.

During the year 1904-5 the work done was the completion of the block built last year, 22 by 50 feet and 35 feet in height, with 13 feet of stringers, planking and sheathing was done, and some repairs were made to the wharf. Expenditure, \$1,192.87.

During the year 1905-6, the levelling of the outside pier, which had sunk, was done, a shed with a waiting room was built. Expenditure, \$1,001.38.

During the fiscal year 1906-7 the shed, commenced in 1905-6, was completed, and the flooring and sheathing repaired. Expenditure, \$1,002.53.

SESSIONAL PAPER No. 19

ASHUAPMOUCHOUAN AND PERIBONKA RIVERS.

Ashuapmouchouan river, in the county of Chicoutimi, is one of the tributaries of Lake St. John, and is navigable up to St. Félicien.

In view of giving more water in the channel, at extreme low water, two dikes were commenced in 1905-6, one at St. Prime and the other at St. Félicien.

Amount expended, \$3,999.99.

The work done, during the fiscal year 1906-7, was the continuation of these two dikes.

The dike at St. Prime is built for a length of 1,600 feet by 12 feet and 8 feet in height. This dam is completed.

The dike at St. Félicien is 2,000 feet in length by 12 feet wide and 8 feet in height; it will have to receive brush and stone.

A dike was commenced at the mouth of the River Peribonka, near the outlet of Little Peribonka, and 1,400 feet was built.

Amount expended during the year is \$4,992.98.

BAIE DES BACONS.

Baie des Bacons is situated on the north shore of River St. Lawrence, in the parish of Mille Vaches.

Baie des Bacons is a long reef, and there is a wharf which is used to load timber, cordwood, &c.

During the fiscal year 1906-7 boulders in and close to the channel were blasted and removed. Expenditure, \$250.43.

BAIE ST. PAUL.

Baie St. Paul, a village in the county of Charlevoix, has a population of 1,500, and is situated on the north shore of the River St. Lawrence, sixty miles below Quebec. It is built on both sides of the 'Rivière du Gouffre,' which is a tributary to the St. Lawrence, and empties into a large bay, three miles wide. The bay is dry at low tide.

During the last fiscal year, in order to give more facilities for the landing of steamers calling to the wharf of Cap-aux-Corbeaux, a crib, 50 feet long by 20 feet wide, was built on the northeast side of the wharf. This work was done to allow the removing of the western movable slip, some 80 feet further in shore. Minor repairs were also made to the flooring, freight shed and end of movable slip. The crib above mentioned is not completed, the work having been stopped in December last on account of the prevailing stormy weather.

The expenditure for the fiscal year 1906-7 amounts to \$3,587.29.

BARACHOIS DE MALBAIE.

Barachois de Malbaie, Gaspé county, is a large parish and municipality situated at the head of Malbaie, some twelve miles east of Percé, the shiretown.

Barachois, on account of the large area of rich farming lands situated along the four rivers that form the barachois, of the important lumber firms that have built their mills along the Barachois, and of its first-class fishing harbour, now that the government has started a training pier to improve the entrance, may be considered the most promising centre in Gaspé peninsula.

Until the government started the training pier now under construction, the fishing boats could not safely enter or go out of the harbour at falling tide and at low tide, on account of shifting sand bars, they had to remain outside and wait for the rising tide to come in. Many a good day's fishing was lost thereby, many a sad accident happened and even lives were lost.

7-8 EDWARD VII., A. 1908

During the fiscal year 1904-5, a crib, 100 by 23 by 18 feet, was partly built and placed into position at 590 feet from extreme high water mark; the approach thereto from said high water mark was built of fascine mattress with brush and stone filling.

During the fiscal year 1905-6, the 100 foot crib was completed, the roadway filled, with the exception of an average of 5 feet, and of a new crib, 120 feet long, built and secured into position.

During the last fiscal year, the outside crib of 100 feet was built up to 4 feet below coping and partly ballasted.

The expenditure during the last fiscal year was \$1,191.31.

BASSIN.

The Bassin is a large parish at the centre and west end of Amherst island. The population is composed of Acadian fishermen engaged mostly in cod fishing. On the south shore of Amherst island, opposite the said fishing establishment, there is no shelter wherever. A small breakwater was decided upon. Two cribs 66 by 25 by 20 feet high were built, secured into place and completed with the exception of the sheathing.

Spring tides rise 4 feet; neap tides, 2 feet.

The expenditure during the last fiscal year was \$1,191.31.

BEAUPRÉ.

Beaupré is situated on the north shore of the River St. Lawrence, twenty-four miles below Quebec, in the county of Montmorency.

During the fiscal year 1906-7, the construction of a new wharf was started at Beaupré. This construction consists of a close faced timber crib, filled with ballast. The crib is 250 feet in length, 12 feet in width and an average height of 16 feet. At the end of last year 70 per cent of the construction was completed.

The expenditure for the fiscal year 1906-7 amounts to \$6,625.07.

BELOEIL.

Beloil is an incorporated village in Verchères county on the north side of Richelieu river and a station on the Grand Trunk railway, twenty-one miles northeast of Montreal.

South of the Grand Trunk Railway bridge which crosses the river at Beloil, the government built a number of piers and booms on both sides of the channel to facilitate the passage of steamers and barges coming down the rapid current of the river and going through the narrow passage of the draw-bridge. There were eight piers, four on each side of the channel, and from 80 to 100 feet apart. From 1885 to 1896, repairs were made to the booms and piers at a total cost of \$3,191.95.

In 1896-7 it was found that the guide-piers on the west side of the river were in such bad condition that they could not be properly repaired, and an entirely new line of guide works was adopted. It was decided to build a solid cribwork wall from the Grand Trunk Railway pile abutment upward, following a line of a 15 degree curve (about the natural curve of the shore) for a distance of 337 feet, to remove the four old piers and booms, and to dredge a wider channel for the free passage of boats.

The work carried out by day labour was commenced during that fiscal year and completed in 1899-1900, at a cost of \$17,444.67, including the dredging.

In 1903-4 and 1904-5 the top of the four guard piers on the east side of the river were partly renewed at a total cost of \$2,350.02.

In July, 1905, the booms on the eastern side of channel were completely renewed at a cost of \$607.24. On the western side of the channel the wooden flooring of guide-piers was removed and replaced with earth and sand. Further minor renewals to the boom below the bridge were also made. All these repairs, done by day labour, were completed at the end of October at a total cost of \$1,173.19.

SESSIONAL PAPER No. 19

During November and February last, the guide-pier on the western side of the river was refilled with gravel; a small crib pier, adjoining the old Parizeau wharf on western side of river, below Grand Trunk Railway bridge, was built to better moor downstream end of boom, and a timber arrangement to the middle of boom, on east side of river, opposite guide-pier, was made, so as to prevent its overturning by the current and vessels. Total expenditure during fiscal year of 1906-7, \$1,439.38.

BIC.

Bic, on the south shore of the St. Lawrence, in the county of Rimouski, about 170 miles below Quebec, is a favourite summer resort.

Its harbour affords the best natural shelter for vessels of moderate draught.

Spring tides rise 16 feet; neap tides, $8\frac{1}{2}$ feet.

In order to provide more facilities for landing and also to accommodate the traffic with the north shore, which is growing more extensive every day, it was decided to build a wharf where vessels could land at all stages of the tides.

The work will consist of an approach 500 feet long, from Pointe à Coté to Ile au Massacre, and following the northeast shore of that island a distance of 450 feet, and an outside section 300 feet in length giving a depth of water of 10 feet at low water spring tides.

The work commenced in May, 1906, and up to June 30 part of the cribwork approach, between Pointe à Coté and Ile au Massacre, was built.

During the nine months ended March 31, 1907, the approach was completed; it is as aforesaid, 500 feet long, 21 feet wide with a mean height of 13 feet. The construction is open-faced, with ends of cross-ties, projecting outside the faces, between fenders.

A considerable amount of blasting was also done on the island, where the road is located.

A tract of land on Ile au Massacre, including the right of way, has been bought for the price of \$350

Expenditure during the last fiscal year, \$5,969.64.

CANNES DE ROCHES.

Cannes de Roches is a small fishing cove situated at the foot of the Percé Mountains, and the only harbour for the fishermen from the mountains and from the settlement of Corner of the Beach, on the west side of Malbaie bay.

During the latter part of the fiscal year 1904-5, the sum of \$999.66 was expended towards making preparations and buying the materials to build a small breakwater, to protect the cove from the easterly winds. During the fiscal year 1905-6 a crib of 80 feet was sunk into position, built up to coping and extended 50 feet towards high water mark, giving a total length of 130 feet. During the last fiscal year, a crib 80 feet long was built, secured into position and completed.

The expenditure in 1906-7 was, \$2,023.64.

CAP-À-L'AIGLE.

Cap-à-l'Aigle is situated some six miles below Murray bay, in the county of Charlevoix.

During the last fiscal year, the flooring of the wharf was completely renewed, minor repairs were also made to the buildings.

The expenditure for the fiscal year 1906-7 amounts to \$455.22.

CAP CHAT.

The sum of \$75 was spent for removal of stones in fishing cove.

7-8 EDWARD VII., A. 1908

CAPE COVE.

Cape Cove, Gaspé county, is an important fishing station on the coast of Gaspé, some nine miles south of Percé, the shiretown. It is a port of call for steamers plying between Montreal and Pictou, and between Dalhousie and Gaspé basin.

In 1905, the department decided to construct a landing pier at this place, and in August, 1906, a contract was entered into with Mr. John Burns, for the construction of a length of that pier, 450 feet, for the sum of \$13,300. The work was completed in November, 1906.

Expenditure during 1906-7, \$4,965.51.

CHAMBORD.

Chambord, in the county of Chicoutimi, is situated on the southeast side of Lake St. John, twelve miles east of Roberval.

Chambord is the junction for the Quebec and Lake St. John Railway of the Roberval and Chicoutimi branches.

During the year 1903-4, a certain quantity of timber was purchased, in view of the construction of a wharf at that place. Amount expended, \$1,304.92.

During the year 1904-5, a contract for the construction of a wharf was awarded in the sum of \$9,350.

The work done during the year consists of seven piers of 25 by 20, with a head-block of 30 by 50 and an abutment of 40 by 20 feet. The whole is completed.

The depth of water at outer end is 7 feet; in spring, water rises 14 feet. Amount expended, \$8,000.

During the fiscal year 1905-6, an approach and a freight shed were built. Expenditure, \$736.31.

CHATEAUGUAY.

Chateauguay is a post village in Chateauguay county, near the mouth of the Chateauguay river, fourteen miles southwest of Montreal, and a station on the New York Central Railway. Population about 250.

In the autumn of 1895, the old private wharf at Chateauguay was entirely renewed by the government. A row of close-faced pile work, 145 feet in length, including 128 piles of 12-inch flatted hemlock timber, was driven to an average depth of 8 feet along and at an average distance of 4 feet from the front face of old wharf. The space between the wharf and the piling, and the depressions and holes in the former were filled with stone, over which a layer of gravel 2 feet thick was laid for a roadway. Cost, \$1,296.47.

During October and November, 1906, the row of close piles was cut to low water level and a new face, composed of solid wall of concrete mixed 1:3:5 and properly reinforced with vertical and horizontal $1\frac{1}{2}$ inch iron bars was substituted. This wall is 144 feet long with returns of 5 feet at both ends, 2 feet thick at bottom and $1\frac{1}{2}$ feet at top, 6 feet high, while every 20 feet, 12 feet long anchor bars are embedded in 1 cubic yard blocks of concrete surrounded with stone. Two 8 by 8 inch tamarack fenders were placed to protect the outside face. Expenditure during last fiscal year was \$7,570.06.

CHICOUTIMI.

The town of Chicoutimi, in the county of the same name, is situated on the south shore of the Saguenay river, seventy-one and half miles above Tadousac, at the head of navigation. The Richelieu and Ontario Navigation Company has a daily service from Quebec to Chicoutimi, during the season of navigation, with passengers, freight and mails.

Construction.—The landing pier was commenced in 1873 by the St. Lawrence Tow Boat Company, and completed by the Dominion government to whom it was

SESSIONAL PAPER No. 19

handed over in 1874, at a cost of \$14,193.40. From 1874 to 1882 inclusively, it was extended and improved, at a total cost of \$2,863.73. The pier was then 282 feet long, and 30 feet wide, with a headblock, 34 feet long and 127 feet wide, forming two wings, respectively 70 feet and 27 feet wide. On the upper or 70-foot wing, was a combined waiting room and office 20 feet square.

In 1883, the shore end portion of the approach, on a length of 38 feet, was embedded in an embankment, upon which the station and sheds of the Chicoutimi branch of the Quebec and Lake St. John Railway are now erected. The whole space, 210 feet in length, between the upper wing and the shore was filled with slabs. A storehouse, 40 feet long and 24 feet wide, was erected on this extension, at a total cost of \$2,145.84. The filling, however, was not carried up to the level of the top of the pier until 1885, when the extension was floored in a similar manner to the rest of the work. A separate waiting room was also erected on the lower or 27 foot wing. Amount expended \$2,242.11.

In 1890, a cribwork retaining wall, 14 feet wide, was commenced along the slab filling, built in 1884, and the flooring was repaired, where required, at a total cost of \$1,005.81.

In 1891, the cribwork retaining wall was completed, a shed, 28 by 29 feet, built at the southern end of the pier and the flooring repaired at various places, at a cost of \$1,802.70.

In 1897, the pier was again widened by the addition of cribwork, 30 feet wide along its lower or eastern face, from the lower wing to shore, a distance of 210 feet. The cribwork was fully ballasted and floored with 3-inch tamarack planks, and 25 fenders were placed along its face.

The pier was also sheathed for a length of 50 feet, along its northern face, in order to complete the sheathing all around the work. Amount expended, \$4,992.96.

As now completed, the pier is 245 feet long and 130 feet wide. It is, 29 feet high above the bottom of the river at its outer end, which stands in about 8 feet of water at low water spring tides.

Repairs.—In 1883-4, minor repairs were effected.

In 1887, a slip was built at the outer end of the pier.

In 1889, the flooring of the pier was almost entirely renewed and six fenders, 14 inches square, were placed along its outer face.

In 1892 and 1893, the flooring of the pier was completely renewed on a length of 210 feet and a width of 110 feet, with red spruce planks, 5 inches in thickness; the east side of the structure was raised 18 inches, the waiting room was painted both inside and outside, and two mooring posts were renewed. The expenditure incurred during the two years was \$3,024.04.

In 1894, a sum of \$1,999.60 was expended for the construction of movable slip and the purchase of two crab winches.

During the years 1895 and 1896, a portion of the outer face and the whole of the eastern face of the structure were resheathed, and a portion of the flooring, not completed in 1893, was laid. Expenditure, \$3,991.88.

During the year 1898, the sum of \$239.79 was expended on minor repairs to the sheds and waiting room.

During the year 1899, a freight shed, 60 by 30 feet, was constructed on the south side of the pier, for the storage of butter and cheese. Part of the top planking was renewed. The work was done by day labour, at a cost of \$1,499.27.

During the year 1900, the pier was raised 3 to 5 feet over the whole surface; stone ballast was placed in the outer end, which was also sheathed with tamarack, and covering was renewed with 3-inch plank, at a cost of \$5,050.59.

During the year 1900-1, a new 3-inch tamarack floor was laid on a length of 210 feet and a width of 45 feet.

The northern part of the wharf, for a length of 145 feet, was sheathed, and the sheds were painted. Expenditure, \$1,012.12.

7-8 EDWARD VII., A. 1908

During the year 1901-2, the old buildings on the wharf were taken down and new ones erected; the new freight shed measures 60 by 30 feet, and the passengers' waiting room is 25 by 25 feet. These two buildings are covered with galvanized iron and painted three coats inside and outside. On the north side of the wharf, 6 fenders, 11 by 11 inches, were placed, and five snubbing posts were renewed. Expenditure, \$1,513.34.

During the year 1903-4, the sheathing on the two other corners of the wharf was renewed with hardwood, new fenders put in at the head of the wharf, the flooring was repaired and a portion of the flooring on shore was replaced with gravel, and other minor repairs were performed. Amount expended, \$1,045.03.

During the year 1904-5, the boulders on the east side of the wharf were blasted and removed. Amount expended, \$60.

During the year 1905-6, certain repairs were done to the wharf and the freight shed.

During the fiscal year 1906-7, repairs were done to the wharf, the old planking for 80 by 90 feet was removed and replaced by gravel, the rest of the planking was covered with 3-inch spruce deals, a shed was built, 40 by 38 feet, the slip on the west side was repaired and the sheathing on the west side of the wharf was done.

The freight shed was extended 30 by 38 feet; this shed is covered with galvanized iron.

Spring tides rise 17 feet; neaps, 9 feet.

Amount expended during the year, \$4,496.10.

CÔTE STE. CATHERINE.

Côté Ste. Catherine is a landing place on the south shore of the St. Lawrence, in Laprairie county, about five miles west of the village of Laprairie. A steamboat ferry plies daily between this place and Verdun, on the opposite side of the river.

The wharf was commenced in October, 1899, and completed in June following, at a cost of \$3,199.46. It consists of a close-faced crib head-block, 82 feet long, 20 feet wide, terminated at the upper end by an icebreaker, and an approach, 115 feet long, 18 feet wide, also of close-faced cribwork. The outer face of the block stands in 6 feet of water at low level.

During 1902 and 1903, repairs amounted \$436.64 and \$493.59 respectively.

The structure having been badly damaged by ice during the winter of 1905-6, extensive repairs were begun in the middle of July last, and completed September 7th, at a cost of \$1,379.31. These consisted chiefly in the razing of the whole wharf to low water level and rebuilding same 3 feet. The upstream side of approach was ripped, handlaid, to a slope of 1 in 1, as a protection against floating ice, and the whole head-block and approach covered with properly hardened layers of small broken stone, gravel and sand. The roadway from public road to approach was also improved. The wharf is now in good condition.

DESCHAMBAULT.

Deschambault, county of Portneuf, is a flourishing village on the north shore of the St. Lawrence and on the Canadian Pacific Railway, forty-one miles above Quebec. A steamer plies semi-weekly to and from Quebec.

During last fiscal year, some 15,000 cubic feet of hard gravel were removed, by hand dredging, in front of new landing pier, to level the approach. The ground around the new waiting room, on an area of 1,000 feet, was also raised and levelled. On the new roadway approach to wharf, about 30,000 cubic feet of stone were added to the building up of the upper end, which is a steep elevation; sidewalks and fences were also placed.

Expenditure in 1906-7, \$2,835.76.

SESSIONAL PAPER No. 19

DESJARDINS.

During the session of 1904, parliament granted the sum of \$11,000 towards the construction of a wharf at Desjardins village, Allumettes island, on the Ottawa river, to accommodate the heavy traffic to and from Pembroke, on the opposite shore.

On June 8, 1904, a contract was let to Mr. Thos. Moran, for the construction of an open-face cribwork landing pier, 120 feet long and 20 feet wide, sheathed, provided with fenders, and built in $6\frac{1}{2}$ feet of water at E.L.W.L.; and an approach, 543 feet long and 16 feet wide at the top, built, partly of open-face cribwork piers united by platforms, and partly of rip-rap. The flooring is 8 feet above E.L.W.L. Work began in August, 1904, and was completed in June, 1905.

Cost of construction amounted to \$10,957.42. (For further details see report of 1904-5).

In 1905-6, a gas pipe hand-railing was constructed on the approach at the total cost of \$784.20.

During the last fiscal year, the head of the wharf was widened to 36 feet, on cribwork piers and platforms sheathed; the two slips were altered; a combined freight shed and waiting room, 18 by 18 feet, was erected on a cribwork pier, at the inner corner of 'L,' the handrail, 1,080 l. feet, was repaired, and a wheelguard capping was placed along the cribwork approach.

Expenditure during the fiscal year 1906-7, \$2,991.28.

D'ISRAELI.

D'Israeli is a post settlement in Wolfe county, at the head of Lake Aylmer, and a station on the Quebec Central Railway, some fifty-two miles northeast of Sherbrooke.

The construction of the wharf at that place was begun by day labour at the end of September, 1904. The work consists of a close-faced 12 by 12 timber crib headblock, 50 feet by 36 feet and 17 feet high, standing fully ballasted with stone in 12 feet of water at mean level. A 30-foot span, composed of red pine beams every 3 feet supporting 3-inch pine flooring connects headblock with crib abutment terminating stone approach, 200 feet long, 18 feet wide at top, with sides inclined 1 in 1 $\frac{1}{2}$. A double 1 $\frac{1}{2}$ -inch iron pipe railing with 6-inch round cedar posts every 10 feet completes the whole structure.

At the end of fiscal year 1904-5, the stone approach had been three-quarters completed and the crib headblock about half so, at a cost of \$1,990.62.

During 1905-6, the headblock was completed. Work was suspended in October, the yearly appropriation being exhausted. Expenditure, \$1,514.19.

Work was resumed in September last, and the whole structure completed October 23 following, at a further cost of \$706.84.

DOUGLASTOWN.

Douglastown, situated in Gaspé bay, is a village of fishermen and farmers, standing on the rising ground at the south side of the entrance to the St. John river. Its population is between 1,600 and 1,800.

As the pier was settling towards the centre, on the outside face, some 400 cubic yards of stone ballast had to be placed along that part of the face-work. Fenders with walings were placed along inside face.

Expenditure in 1906-7, \$283.12.

ENGLISH RIVER, AT ST. JEAN CHRYSOSTÔME.

St. Jean Chrysostôme is a post village in Châteauguay county, Quebec, on the Grand Trunk Railway, four and one-half miles from Aubrey station and nine miles from Howick, where the English river flows into the Châteauguay.

7-8 EDWARD VII., A. 1908

Every spring, during the freshets, the English and the Black rivers overflow, and cause considerable damage to the village and parish of St. Jean Chrysostôme, an area of over 2,600 acres of good land being held for several days under from 3 to 5 feet of water. In order to prevent, or at least considerably minimize these disastrous floods, it was decided to deepen the bed of the English river from its confluence with the Black river, opposite the village of St. Jean Chrysostôme, a distance of 500 feet downstream by a width of 60 feet. In this area the bed of the river is solid rock, some 4 feet higher than the normal bottom, thus acting as a dam which causes the river to overflow upon the surrounding low lands.

Work was commenced in the autumn of 1903. During 1903-4 some 100 cubic yards of solid rock were blasted and removed, at a cost of \$2,875.69.

In 1904-5, about 1,200 yards of solid rock were removed. With the aid of rail-road plough and two horse scrapers, clay, gravel, boulders and hard-pan, on a length of 500 feet by a width of 50 feet and an average depth of from 1 to 2½ feet, representing some 1,600 cubic yards, were removed at a cost of \$4,523.55.

During 1905-6, the blasting and removal of solid rock, some 300 cubic yards, was completed. Hard-pan, boulders, gravel and clay representing some 2,500 cubic yards were ploughed, scraped and removed, at a cost of \$2,983.90. All the above work was done on a dry bottom, necessitating the temporary damming of both English and Black rivers.

In September and October last, the bottom of the river, for a length of 1½ miles, was cleaned of boulders, and the improvements completed, at a further cost of \$1,810.14.

FABRE.

Fabre, a post village eleven miles south of Ville Marie, on the Quebec shore of Lake Timiskaming, is the centre of a thriving farming district of Pontiac county.

In 1903, parliament appropriated \$2,000 towards the construction of a wharf in Lavallée bay. On account of some local interference in the location of said wharf no work was done during the fiscal year 1903-4.

The sum of \$2,000 was revoted in 1904. On June 30, 1905, practically all required materials had been procured at a cost of \$1,329.03.

The projected wharf to be of pilework, having a frontage of 40 feet and extending a distance of 240 feet from 7 feet depth contour to shore, followed by a stone approach, 16 feet wide at the top, 200 odd feet long to the roadway. Elevation of floor, 12 feet above O.L.W.L.

On account of extreme low water in 1904, it was deemed advisable to place the front of the wharf 32 feet further out, and have the floor 13 feet above O.L.W.L. Parliament again granted the sum of \$2,000 at its session of 1905. Construction was started in February, 1906, and the wharf, although not completed was in regular use by the end of the fiscal year.

Further work was done during July and August, placing the wharf in a state of serviceability. The wharf, as built, consists of a pilework head, 80 feet deep, 40 feet wide and resting in 9 feet of water; a pilework approach, 16 feet wide and 178 feet long continued by a stone approach, 216 feet long, to shore. The wharf is provided with slip and freight shed.

As a consequence of the movement of ice in the spring of 1906, a few piles, at the head of wharf, were broken. In March, 1907, these piles were replaced and two ice-piers framed on pilework 12 by 16 feet were built 40 feet apart and 40 feet north of the wharf. The flooring, capping and sway-bracing required in connection with new piles, however, was only completed on April 18, 1907.

Expenditure during the fiscal year 1906-7, \$2,029.36.

FATHER POINT.

Father Point, in the county of Rimouski, is on the south shore of the St. Lawrence, six miles below the town of Rimouski. Most of the ocean liners call there to

SESSIONAL PAPER No. 19

land or take in their pilots. The point is one of the few places on the south shore of the St. Lawrence where deep water can be found at a relatively short distance from shore.

A self-registering tidal gauge was established here some years ago by Department of Marine and Fisheries. There are also a powerful compressed air fog-horn and an acetylene gas lighthouse, and a Marconi wireless telegraph station.

It was desirable a few years ago that a deep water wharf be constructed at Father Point; tenders were called for, and on November 8, 1901, a contract was awarded to Messrs. Heney & Smith for a section of the structure, 600 feet long.

The work was carried out during the years of 1902 and 1903 and completed by the beginning of July, 1904, the amount of contract being \$57,821. In May, 1904, a new contract was entered into for the construction of an additional length of 200 feet. The work was completed on November 8, 1905; the contract price was \$44,300. The outer end of the wharf stands in 18 feet of water at extreme low spring tides.

In the month of June, 1906, during the fog, the steamer *Pomeranian* struck the wharf at about 300 feet from the outer end; the damages were considerable and heavy repairs were necessitated. A length of 140 feet, by the full width, had to be demolished down to the extreme low water line. The whole of the material was taken ashore. In the reconstruction nearly all the timber was renewed; with the exception of the decking of and hardwood sheathing, the repairs are nearly completed.

The repairs were performed by day labour and the expenditure for the nine months ended March 31, 1907, amounted to \$7,387.95.

GATINEAU POINT.

Gatineau Point village, in the county of Wright, is at the intersection of the Gatineau and Ottawa rivers, two miles from Ottawa.

During the fiscal year 1885-6, a cribwork wharf having a frontage of 107 feet and a depth of 8 feet at lowest water, with approaches providing for the different stages of water level, was built at this place; also a pile work retaining wall, 230 feet long, to protect the bank and roadway on the upstream side of the wharf. (For further information see annual report 1904-5.)

During the fiscal year 1905-6, a permanent retaining wall of concrete cribwork was built 17½ feet high and 231 feet long.

The backfilling, however, could not be proceeded with on account of cold weather, and work was discontinued for the winter.

The work of completing the retaining wall was performed during August and October, 1906, at a cost of \$1,954.25.

The wharf was improved in August, 1906, by easing the grade of the lower landing and building up the down hill wall for better protection, at a cost of \$120.

Expenditure during the fiscal year 1906-7, \$2,306.45.

GRAHAM.

Graham is a post village in the municipality of Como, on the south shore of Lake of Two Mountains, thirteen miles northwest of Vaudreuil, and four miles east of Rigaud.

In the autumn of 1899, the government got possession, free of charge, of Mr. Graham's wharf, together with right of way thereto, 435 feet long and 30 feet wide at the foot of La Montée Ste. Marthe. A new structure was immediately commenced by day labour; it was opened to traffic in June following, after an expenditure of \$1,125.76, and completed in November, 1900, at a further cost of \$3,999.87.

The new wharf consists of:—

(a) A pile work headblock 98 feet long and 33 feet wide.

(b) A solid stone embankment 240 feet long, 24 feet wide on top with hand railing and slopes on both sides, of one in one.

7-8 EDWARD VII., A. 1908

(c) A storehouse and waiting room 18 by 24 feet.

During the spring of 1902, a small storehouse, 15 by 15 feet, was erected on southwest angle of wharf and minor repairs were made, at a cost of \$803.47. Other repairs in 1903 cost \$317.

During October last, a new 3-inch pine flooring was laid over the old one, some broken binders replaced and the guard railing painted. Expenditure, \$455.56.

GRAND RIVIÈRE.

Grande Rivière, county of Gaspé, is the name of an important fishing centre, some twenty-one miles southwest of Percé.

The new shed, 25 by 30 feet, was completed, and the old shed repaired. The sheathing of the wharf was well secured by bolts, and new fenders with longitudinal walings placed along the inside face and at the outside end.

The expenditure during the last fiscal year amounted to \$648.15.

GRANDE BERGERONNES RIVER.

Grande Bergeronnes, Saguenay county, is on the north side of the St. Lawrence, eighteen miles below Tadoussac.

The entrance of the River Grandes Bergeronnes being obstructed by boulders, a channel of about 150 feet was cleared from the entrance to the village, for a distance of one mile.

In the years 1887, 1895, 1899, 1901 and 1902, a total sum of \$1,254.32 was expended.

During the year 1902-3, the work was continued in the channel. Blasting was done by day labour. Expenditure, \$398.77.

During the year 1903-4, work was continued in completing the removal of boulders in the river. Amount expended, \$224.38.

During the years 1904-5, 1905-6, the sum of \$500, and in 1906-7, further sum of \$506.24 were expended in the continuation of the same work.

GRINDSTONE.

Grindstone is a village on the south side of Grindstone island, four miles east of Etang du Nord. The population is composed mostly of Scotch farmers and Acadian fishermen. For years past most of the freight for the Magdalen Islands has been landed here and the building of landing pier was greatly needed.

In the fiscal year 1902-3, a landing pier was started; 115 feet of close-faced crib-work, of an average width of 23 feet and average height of 15 feet, was built. An approach of 605 feet, 25 to 50 feet wide, and of an average height of 9½ feet, on the outer face, was built, along the eastern side of Grindstone Cape. The outside face of the approach, exposed to the heavy easterly gales from the Atlantic ocean, is protected by a sheathing of split spruce logs, held in place by two sets of walings fastened by cross-ties and a double set of posts. A mattress of brush was laid under the filling taken from the cape.

During the fiscal year 1902-3, the pier was extended 255 feet, with an average width of 25½ feet and an average height of 19 feet to floor level.

In the fiscal year 1903-4, the pier was extended 200 feet with an average height of 22 feet and an average width of 28½ feet.

During the last fiscal year, a crib of 100 feet by 30 feet wide by 28 feet high was built, secured into position and completed.

Total expenditure during 1906-7, \$4,547.98.

SESSIONAL PAPER No. 19

GRONDINES.

Grondines, a post village in the county of Portneuf, is situated on the north shore of the St. Lawrence, forty-eight miles above Quebec, on the line of the Canadian Pacific Railway.

Two lighthouses are located at this place. A steamboat from Quebec calls here twice a week. Population of village, 440; population of parish, 1,500.

The sum of \$2,508.68 was expended last fiscal year in completing the side road of approach from public road to new government wharf, also the removal of large boulders and reefs, obstructing approaches to wharf.

The roadway, over a beach lot, the property of the Crown, is of open-faced crib-work, fronting on river, and of dry-stone wall on opposite side; the space between is filled with ballast stone, broken stone, coarse gravel and sand in different layers, its average height being 3 feet 9 inches all over with a width of 31 feet and 330 feet in length.

Substantial guard-railing with heavy posts, well painted and secured, are placed on both sides, forming 700 feet of railings. Two substantial culverts were built in roadway, to discharge water coming from fields south of road; the full height and length of outer face is sheathed with 3-inch pine deals and cedar timber exclusively was placed in work. Some 17,000 cubic feet of further grading and levelling had to be done at east end of road, following it up to the municipal road outlet, in order to divert the water in heavy rains from damaging our own work.

GROSSE ILE.

During the last fiscal year, the northeast corner of the hospital wharf, that was cut at low water mark by the ice, was repaired at a cost of \$548.25.

IBERVILLE.

Iberville is an incorporated town in the county of the same name, situated on the east shore of the Richelieu river, opposite St. John's, twenty-eight miles southeast of Montreal. Population, 1,512.

In March, 1899, a wharf was begun at the foot of Market street and completed the year following at a total cost of \$8,883.26. The structure consists of:—

(a) A stone embankment 130 feet long and 24 feet wide with slopes of 1 and 1 and guard-railing;

(b) A trestle approach 150 feet long and also 24 feet wide, with guard railing on both sides;

(c) A pile headblock 150 feet long, 40 feet wide, with two slips, inner guard railing, and a storehouse 20 by 24 feet. The outer face stands 15 feet high and 6 feet of water at lowest level. In order to facilitate handling of freight, a horse derrick was placed on wharf.

In 1901, minor repairs cost \$17.48.

During 1903-4, half the floor of headblock was renewed, that of the approach was redoubled for a width of 8 feet, and the storehouse and iron guard-railing painted. Expenditure \$412.84.

In September last, very urgent repairs to the flooring of headblock were made at a cost of \$140.84.

ILE VERTE.

The village Verte, in the county of Temiscouata, is situated on the south shore of the St. Lawrence, sixteen miles below River du Loup and 130 miles east of Quebec. Spring tides rise 19 feet; neap tides, 12 feet.

Owing to the growing traffic in sea grass and to give people engaged in that industry more facilities of landing, the construction of an inclined slip, on the west

7-8 EDWARD VII., A. 1908

side of the wharf was commenced in the month of August, but could not be completed. The slip is 230 feet long and 12 feet wide.

Several boulders were also blasted and the broken pieces placed in the slip for ballasting.

Expenditure in 1906-7, \$1,199.99.

ISLAND HOUSE OR GRANDE DÉCHARGE.

Island House, Chicoutimi county, is situated at the head of the Grande Décharge of Lake St. John, seventeen miles from Roberval. It is a sporting resort with good hotel accommodation. A steamer, the *Mistassini* makes a daily trip from Roberval to Island House.

In 1894-5 the floating pontoon, built by the hotel proprietor, for landing passengers, was transferred to the Department of Public Works and a sum of \$500 was expended in building an extension thereto, 40 by 25 feet. The pontoon is now 100 by 25 feet, built of four rows of round cedar logs, set close lengthwise and crosswise, with floor-stringers every 4 feet, and covered with 2-inch planking. The outer face is provided with nine guard-fenders reaching a height of 6 feet above the flooring.

During the fiscal year 1903-4, the floor-stringers were renewed and a new flooring was put on; the fenders and the mooring posts were also renewed. Amount expended, \$182.17.

ISLE PERROT SOUTH.

Isle Perrot, about seven miles long and three miles wide, is in the county of Vaudreuil, at the confluence of Rivers St. Lawrence and Ottawa, between Lakes St. Louis and of Two Mountains. Two bridges on the Grand Trunk Railway and Canadian Pacific Railway connect it with Vaudreuil and Ste. Anne de Bellevue. Population about 800.

In 1886-7, a contract was entered into with Mr. D. O'Brien for the construction of a pier on the south shore of the island, about one and a half miles below parish church consisting of a crib block 120 feet long, 30 feet wide, with return of 34 by 16 feet in rear of east end and sunk in 8 feet of water, at a distance of 581 feet from shore. It was completed in the year 1887-8 at a cost of \$5,264.26.

During 1888-9 and 1889-1890, the approach was built at a cost of \$7,156.29. It consists of nine cribs, 24 feet wide, five being 20 feet long and four 12 feet long, placed at intervals of 22 to 25 feet and spanned by stringers and planking, and of a shore abutment 182 feet long and 16 feet wide. A freight and shelter shed 16 by 20 feet completed the structure.

In 1896-7 general repairs cost \$395.93.

In September, 1899, a number of planks on the approach were renewed at a cost of \$165.81.

During September and October, 1900, the sheathing of ice-breakers was renewed with 8-inch tamarack, as was two-thirds of the flooring and a number of hemlock pieces and stringers. The guard-railing was repaired and painted, and the stone embankment regravelled. Cost, \$876.04.

During June, 1904, minor repairs were made to the flooring and guard-railing at a cost of \$437.80.

In June, September and October, 1905, and spring of 1906, the flooring of the headblock and of part of the approach was renewed with 3-inch pine planks, and about three-quarters of the stringers of approach replaced. Total cost, \$1,051.27.

In September and October last the slanted face sheathing of the five cribs, some top timbers, a few of the stringers and the guard-railing were all renewed. The upstream side of shore abutment, 182 feet long, was ripped, handlaid, and sloped 1 in 1, for protection against ice shoves. Cost, \$856.07.

SESSIONAL PAPER No. 19

JESREY COVE.

A sum of \$198.93 was spent towards improving that small fishing cove.

KNOWLTON LANDING.

Knowlton Landing is situated on the west shore of Lake Memphremagog, in the county of Brome, about eleven miles from the town of Magog. It is a summer resort.

During the fiscal year 1891-2, an extension to the pile wharf at this place, built many years before, was constructed. This extension of 51 feet by 75 feet was built of hemlock piles, covered with stringers and 3-inch planking at a cost of \$971.22. There is a depth of 9 feet at low water at the end of the present wharf, which will permit of steamers calling at all stages of the water.

During the next year six fender piles were driven along the front of the wharf and three at each corner. A warehouse, with waiting room, 40 by 23 feet, was built on shore immediately west of the wharf, the whole at an expenditure of \$918.09.

In the fiscal year 1899-1900, all the stringers and planking were renewed, also the corner fender piles, and some repairs made to the storehouse and stone approach. The work was carried out by day labour at a cost of \$714.12.

During March, April and June, 1904, several caps and stringers were renewed, general overhauling of the flooring made and two iron nigger heads substituted for the old hemlock mooring posts. Expenditure, \$176.52.

In July, 1904, these repairs were continued and completed at a further cost of \$60.99.

The wharf, as it stands to-day, is composed of a pile head block, 75 by 25 feet, of a trestle approach 118 feet long and from 35 to 16 feet wide, and of a stone and earth embankment some 10 feet long and 20 feet wide.

Last March, work was commenced on the approach. It is the intention to make it all stone, 20 feet wide at top, with riprap sloped 1 in 1 on both sides. The flooring of headblock will also be renewed.

LAC À BEAULIEU.

Lac à Beaulieu, in the municipality of Les Grandes Bergeronnes, is situated three miles north of the village.

The outlet of Lac à Beaulieu is obstructed with boulders and rock, which render the floating of logs very difficult.

During the year 1903-4, a certain quantity of boulders and a point of rock were blasted. Expenditure, \$297.76.

Same work was continued during the following years: 1904-5, with an expenditure of \$200.36; 1905-6, \$202.69, and 1906-7, \$208.25.

LACHINE.

Lachine is an incorporated town in Jacques Cartier county, on Lake St. Louis, and on the Grand Trunk Railway and Canadian Pacific Railway, eight miles southwest of Montreal.

The old wharf, built in about 1895, by a Mr. James Howley, and sold later to the St. Stephens' Athletic Association, the present proprietors, and now in a very dilapidated condition, is composed of 6 open-faced, stone-filled and plank-sheathed cribs of irregular dimensions, averaging 9 by 12 feet, except the headblock, which is 26 feet by 17 feet and stands 13 feet high, sunk in about 6 feet of water. These cribs are spanned with timber beams supporting flooring. The right of way to St. Joseph street is 119 feet long and some 10 feet wide.

Last spring, upon the condition that the proprietors would transfer to the Crown, free of charge, the above structure and right of way thereto, the government undertook to repair it and place it in a serviceable condition. In March, the materials, including

7-8 EDWARD VII., A. 1908

timber and iron were bought, and all the piers razed to low water level. On March 24 work was suspended and materials placed in safety. Expenditure, \$1,277.63.

• LAKE ST. FRANCIS AT LAMBTON.

Lambton is a thriving post village in Beauce county, at the southern end of Lake St. Francis, and fifteen miles from d'Israeli.

On February 15 last, a contract was entered into with Mr. John Lowrey, of Ottawa, for the construction of a landing pier at Lambton. Contract price, \$7,750. It calls for:

(c) A solid close-faced and stone filled crib headblock, 70 feet long and 30 feet wide, the outside face standing 20 feet high in 8 feet of water, at extreme low level;

(b) A stone approach, 320 feet long and 18 feet wide at top, with sides riprapped and sloped $1\frac{1}{2}$ in 1.

Work was begun at the end of February, and at the end of March, the headblock had been sunk in place and about half completed; about $\frac{2}{3}$ of the stone approach were also constructed.

Expenditure during fiscal year of 1906-7, \$2,764.23.

LA PETITE PÉRIBONKA.

La Petite Péribonka, in the county of Chicoutimi, is situated on the west side of La Grande Péribonka, near its mouth.

Pulp mill is situated four miles above La Grand Péribonka.

During the year 1904-5, a portion of the snags and obstructions in the channel were removed. Amount expended, \$626.16.

During the fiscal year 1905-6, the work of removing snags and obstructions was continued. Amount expended, \$610.14.

LES CUISSÉS D'ALMA.

Les Cuissés d'Alma, in the Little Décharge of Lake St. John, is three miles from the lake, in the parish of St. Joseph d'Alma, and seven miles from the village.

There are three rocks called 'les Cuissés d'Alma' and an island, which obstruct the Little Décharge.

In 1901-2, blasting was done on the east side. Amount expended, \$575.92.

In the year 1902-3, the east side was completed and a portion of the west side was done. Amount expended, \$1,229.37.

During the year 1903-4, the blasting of the two points obstructing the Little Décharge was completed; work was continued on the little island below. Amount expended, \$1,477.59.

During the year 1904-5, the blasting of the little island was continued. Amount expended, \$994.31.

During the year 1905-6, same work was continued. Amount expended, \$1,015.96.

During the fiscal year 1906-7, the work done was the continuation of the blasting at the island, below 'les Cuissés d'Alma,' to enlarge the channel. Amount expended, \$996.02.

LES EBOULEMENTS.

This village is situated on the north shore of the River St. Lawrence, seventy miles below Quebec.

During the last fiscal year, the southwest corner of the wharf, was rebuilt, six fenders were also placed and minor repairs were made to the movable slip.

The expenditure for the fiscal year 1906-7 amounts to \$592.46.

SESSIONAL PAPER No. 19

LES ECUREUILS.

Les Ecureuils, a village in the county of Portneuf, is situated on the north shore of the St. Lawrence, twenty-eight miles above Quebec. It is distant from any railway communications and difficult to approach by water. Population 600.

The sum of \$653.71 was expended in effecting urgent repairs to the wharf, and in filling up with timber and stone ballast, an opening left in the old or first section of present structure.

The subsequent addition, in 1904-5, of a headblock of 30 by 40 feet seems to have, in some way, intercepted the free movement of the spring ice, which hugs the shore, on its rounding the Point of Ecureuils at this particular place and, in pressing its way through the aforesaid opening in wharf, forced the two cribs some six inches apart.

In order to strengthen the whole structure, this passage was built up solid on a height of 16 feet, width of 21 feet and length of 22 feet, with 3 inch spruce deal sheathing, full height on both sides, over the 12-inch square face timbers.

LES ESCOUMAINS WHARF.

Les Escoumains, in the county of Saguenay, is situated on the north shore of the St. Lawrence river, twenty-one miles below Tadousac.

The Saguenay Lumber Co. have an extensive saw-mill and a pulp mill at this place.

On May 7, of the fiscal year 1904-5, a contract was awarded to Messrs. Bernier & Beaulieu, for the construction of a wharf at Les Escoumains.

The work was commenced on July 25, 1904, and was suspended for winter on November 1. The work done consisted in the sinking of two cribs, one of 110 feet and the other of 87 feet, and of an approach of 153 feet, forming a total length of 350 feet with a width of 25 feet. The work done to June 30 stands 21 feet in height at outer end. Amount expended, \$9,737.91.

During the year 1905-6, the work under contract was completed, and consists in a wharf, 350 feet in length by 25 feet in width, 30 feet in height and 8 feet of water at outer end. The work is of round logs open faced cribwork; stringers are 12 by 12 with a planking of 3 inches; the wharf is sheathed with 4-inch planking and fenders, 8 by 10, are put on at every 8 feet. The whole is fully ballasted with stone. Amount expended during the year \$5,016.16.

During the fiscal year 1906-7, the sum of \$345.42 was expended in repairs to the wharf, which had been damaged by a sailing vessel.

Spring tides rise 15 feet; neaps, 9 feet.

LES PETITES BERGERONNES.

Les Petites Bergeronnes, in the parish of Les Bergeronnes, is situated on the north shore of the St. Lawrence river, fourteen miles below Tadousac.

There is an important saw-mill on the River Petites Bergeronnes. The entrance of the river being obstructed by boulders, work was commenced to clean the channel up to the saw-mill.

Amount expended during the year 1903-04 is \$904.71.

Amount expended in 1904-5, \$509.12; in 1905-6, \$1,007.99, in the removal of boulders.

The work during the fiscal year 1906-7 was specially at the mouth of the river, a point of rock and boulders being blasted and removed. Expenditure, \$1,029.20.

LE TABLEAU.

Le Tableau (Descente des Femmes) is a new settlement on the north side of the Saguenay river, about sixty-one miles from its mouth.

7-8 EDWARD VII., A. 1908

During the year 1902-3, a block of cribwork, 40 feet in length by 30 feet in width, and a return of 30 feet by 25 feet, and also two piers 25 by 25 feet and 25 feet apart, were commenced.

The block was sunk in 18 feet of water. The block and the return forming an 'L' are built of close-faced timber 11 by 11 inches and sheathed on the outer corners with hardwood timber.

A landing slip was built in the outer block and one in return, on the west side.

The piers are built of round logs open-faced. Expenditure, \$5,035.71.

During the year 1903-4, the work was continued and an approach was built. The corbels and part of the stringers having been laid. Work was done by day labour. Expenditure, \$3,018.33.

During the year 1904-5, the work was damaged by ice and had to be re-inforced; the stringers and corbels were completed; fenders of 8 by 10 were put on, and a portion of the planking done. Expenditure, \$991.74.

During the year 1905-6, the work done was the sheathing at outer end, and the levelling of the outside pier which had sunk. Expenditure, \$597.32.

The wharf of La Descente des Femmes is to-day 219 feet in length by 22 feet, 35 feet wide and 41 feet high at outer end, and 18 feet of water at low water spring tides.

The work done during the fiscal year 1906-7 was the completion of one of the piers, of the superstructure and of part of the sheathing. The piers are fully ballasted with stone. Expenditure, \$2,498.53.

LONGUEUIL.

The town of Longueuil, the chief-lieu of the county of Chambly, is situated on the south shore of the River St. Lawrence, nearly opposite the eastern end of the city of Montreal.

Construction.—The Richelieu and Ontario Company owns a wharf at the upper end of the town, but its long distance from the business or centre portion and the increasing trade demanded new wharfing accommodation. At the request of the town council, the department therefore decided in 1886 to build a landing pier at the foot of Alexander street. In November, 1886, a contract was entered into for the construction of the outer portion of the pier which was commenced at a distance of 675 feet from shore. It consisted of close-faced cribwork structure, 430 feet long and a uniform width of 20 feet, apart from its outer 90 feet, which was 30 feet wide. It was completed in 1888 at a cost of \$12,491.66.

In October, 1899, another contract was entered into for the construction of a block, 40 feet long and 50 feet wide, along the lower face of the existing pier, at its outer end, and of a close-faced cribwork extension to shore, 675 feet long and 20 feet wide, with six buttresses, 10 feet wide along its lower face. The work was completed in 1891, at a cost of \$16,248.30. The landing pier was then 1,105 feet in length, including the block at the outer end, which was 40 feet long and 80 feet wide, the first 90 feet of the pier joining the block was 30 feet wide, and the remaining 975 feet to shore, 20 feet wide. The outer face of the block was 16½ feet high above the bottom of the river, and stood in 7 feet of water at extreme low water.

Repairs.—The portion of the pier completed in 1888, was damaged by ice in the spring of 1889, which necessitated an expenditure of \$1,517.77 for repairs. During the spring of 1892, the head of the pier was damaged, and the block, 40 by 50 feet, built in 1890 was carried 10 feet down stream. The opening was filled with cribwork and the plank covering was removed and replaced with stone and gravel, at a cost of \$2,196.63.

In the spring of 1893, the head of the pier, with the adjoining 180 feet, was moved bodily down stream by the ice. In order to give additional weight to that portion of the pier, which is most exposed to the action of drift ice, it was decided to widen it by means of cribwork built at an angle with the approach and on a line from the lower inner corner of the head block to the outer corner of the first buttress, a dis-

SESSIONAL PAPER No. 19

tance of 354 feet, and to fill with earth and stone the area thus inclosed. A portion of this work was carried out in 1894, when a crib 250 feet long, 12 feet wide and of an average height of 13 feet, was built in the position above described, and the area between it and the original structure filled level with the top of the pier. The work was done by day labour at a cost of \$2,948.70. In 1895 the remaining portion, 104 feet in length, of the work commenced in 1894, was completed, and the spaces between the buttresses were filled with close faced cribwork, in order to better enable the work to resist the action of the ice. The expenditure incurred was \$4,214.19.

In 1896 some necessary repairs were performed to the sheathing and face timbers of the upper face of the pier at its outer end, and a gravel roadway 12 feet wide was laid from end to end of the structure at a cost of \$284.11. Minor repairs were effected to the roadway in 1897 at a cost of \$284.56, and during 1897-8 the roadway was again repaired at a cost of \$160.66.

During the fiscal year 1898-9, extensive repairs were performed to the upper face of the wharf at its outer end, which had been completely broken up by ice. The damaged portion was removed and rebuilt with close-faced timber 220 feet long, 20 feet wide and 18 feet high. A wing 50 feet long, 20 feet wide, terminated at its upper end by icebreaker 26 feet high, was built on the western side of the wharf at its outer end and at right angles with it; this of close-faced cribwork filled with stone ballast. As the whole structure had unevenly settled, it was raised 1 to 3 feet, and the filling with stone and gravel was not completed at the end of the fiscal year. The work was done by day labour at a cost of \$9,986.59. During the fiscal year 1899-1900 the work was continued in July and completed in September at a cost of \$2,017.21.

In 1902-3, 500 lineal feet of the top tier was renewed, and the upstream side of wharf, on a height of 14 feet and a length of 500 feet, was sheathed with $\frac{1}{2}$ -inch boiler plates. Cost, \$1,123.33.

In October last, very extensive repairs and renewals were begun, work was suspended at the end of November, when about half done, to be resumed with the summer months. Part of 12 by 12 timber on upstream side of wharf was renewed, and the laying begun of a substantial 1:3:5 concrete flooring, including six foot sidewalk on upstream side, from 4 to 8 inches thick and reinforced with transversal and longitudinal $\frac{1}{2}$ -inch iron bars. Total flooring area covered to date is 17,715 square feet.

Total expenditure during the fiscal year of 1906-7, \$6,905.04.

LOTBINIÈRE.

The village of Lotbinière, in the county of the same name, is situated on the south shore of the St. Lawrence, about forty miles above Quebec. It has no railway communication, and entirely depends for exchange of supplies on bateaux and steamers from Quebec.

Spring tides rise $14\frac{1}{2}$ feet; neaps, $8\frac{1}{2}$ feet.

Outside of the very narrow channel cleared some years ago off outer end of wharf, the approaches to either side were simply dangerous at all times, being obstructed by reefs and large boulders in every direction inside, outside and up to beach.

Besides clearing a stretch of 400 by 50 to 80 feet in extent of every obstruction in the way, the beach on west side of wharf was hand dredged, levelled down to from 15 to 25 inches, not only giving safe bottom to vessels grounding at low water, but allowing four of the coasting bateaux to lay alongside wharf, end to end, where previously there was room only for one.

Expenditure during the fiscal year ended March 31, 1907, \$1,233.05.

MASSON.

Masson village, also known as Buckingham Junction, Labelle county, is situated on the Lièvre river, which empties into the Ottawa, one mile below the village. In the opposite direction, three miles upstream, the Lièvre furnishes extensive water-power which is the 'raison d'être' of several flourishing industries in the town of Buckingham.

7-8 EDWARD VII., A. 1908

The permanent wharf on the Ottawa river, near the mouth of Lièvre river, commenced in 1905, was completed in November, 1906, at a total cost of \$14,191.83, including the royalty to patentees of concrete-cribwork.

It consists of a headblock 30 by 90 feet, provides depth of 8 feet at lowest water, with landing for different stages of river level, connected to shore by two approaches, 195 by 18 and 125 by 18 feet. Upper level, 16.25 feet above E.L.W.L., has a gas pipe railing.

A two-story freight shed, 18 by 19 feet, occupies the northeast corner of the head block. The understructure is built of close-face cribwork, on clay and mud bottom. Concrete cribwork, reinforced concrete, structural steel and dry masonry used above extreme low water level.

Expenditure during the fiscal year 1906-7, \$3,753.51.

MILLE VACHES.

Mille Vaches, a village in Saguenay county, is situated on the north shore of the St. Lawrence, about forty-two miles below Tadousac.

During the year 1904-5, a certain quantity of timber was bought in view of the construction of a wharf. Expenditure, \$998.20.

During the year 1905-6, a wharf was commenced; an approach, 45 feet in length by 20 feet in width, and four piers, 20 by 20 feet, with a space of 25 feet between each pier, was built. The work is done of flatted round logs, corbels and stringers being 12 by 12, with a planking of 3 inches; it is provided with fenders 8 by 10 and fully ballasted with stone.

A certain quantity of good stone was prepared.

Expenditure, \$4,070.11.

During the fiscal year 1906-7, four piers were built, and an outside pier, 40 feet in length by 20 feet, was commenced.

Expenditure, \$5,018.68.

Spring tides rise 14 feet; neaps, 8½ feet.

MISTASSINI.

Mistassini, county of Chicoutimi and Saguenay, is a settlement on the river of the same name, near its confluence with 'Rivière au Foin' or Mistassini, being thirty-six miles to the northward of Roberval, on the west side of Lake St. John, and eighteen miles above the mouth of River Mistassini on this lake.

In the month of March, 1907, a public wharf was built here for the accommodation of the rapidly increasing number of settlers.

The structure consists of a fully ballasted close-faced timber block 30 feet long, 30 feet wide and 20 feet high at the outer end, and is floored over with 3-inch plank. Along the outer face, there is a depth of 5 feet at low water.

Total cost of wharf, \$680.99.

MISTOOK.

Mistook, in the township of Taillon, is situated on the Grande-Décharge of Lake St. John, in the county of Chicoutimi. It is also called St. Cœur-de-Marie.

During the year 1903-4, a pier, 40 feet in length at bottom and 30 feet at top by 20 feet in width and 23 feet in height, was sunk at 150 feet from high water mark. The pier is built with a landing slip in front, sheathed with 8-inch hardwood planks and also a slip on the outer face. The pier is built of open-face round logs and fendered at every eight feet with 8-inch by 10-inch timber. Work was done by day labour. Amount expended, \$2,061.04.

During the year 1904-5, the wharf, which was commenced in the year previous, was continued; five piers of 20 by 25 have been sunk. Amount expended, \$4,999.99.

SESSIONAL PAPER No. 19

During the year 1905-6, the work was continued, at an expenditure of \$3,997.05.

During the fiscal year 1906-7, the construction of the wharf was completed. This wharf is built on piers of 20 by 30, with a space of 25 feet; the last pier is 30 by 30, making a total length of 402 feet, a general width of 22 feet and 40 feet at outer end and 8 feet of water at low water.

The four outer piers are provided with ice-breakers, sheathed with hardwood; they measure at bottom 30 by 20 and 40 by 30, are built of round logs open joint, provided with fenders and sheathed. Corbels and stringers are 12 by 12-inch with a planking of 3-inch spruce and they are fully ballasted with stone. Amount expended, \$1,995.06.

MONTMAGNY.

Montmagny, in the county of the same name, is on the south shore of the St. Lawrence, thirty-seven miles below Quebec.

It is a thriving little town of about 3,000 inhabitants; important shippings of lumber are made by the Price Bros & Co., and other firms, to European markets.

Besides a pulp mill, there are also two foundries and iron works. The town is built on both sides of Rivière-du-Sud which empties into the St. Lawrence, with a perpendicular fall of 20 feet. Below the fall, the river expands and forms what is called the 'Basin,' affording shelter for vessels of moderate draught.

At the northwest extremity of the basin, stands the government's wharf; it is built across the steep declivity of the channel of the river, and the bottom along its faces does not permit of relatively large vessels to stay there. The wharf is chiefly used for the services, by small boats, of Grosse Ile quarantine, and other opposite islands.

To provide accommodation for the general trade of the place, and the shipping of lumber, the department decided to construct a new wharf, at the rear end of the basin, where all vessels could land. On August 29, 1906, a contract was entered into, for the construction of a landing pier, to consist of a shore section or approach, open-faced, 220 feet in length and 20 feet wide, together with an outside section, closed-faced, 125 feet long and 30 feet wide on top, with a batter of 1 in 12; the contract price being \$9,640.

During the fiscal year, some repairs were performed to the planking of the wharf and to the waiting room.

Expenditure, \$99.53.

MONTREAL HARBOUR—LOWER DIVISION—MAISONNEUVE.

On July 25, 1900, a contract was entered into with Messrs. Poupore & Malone, for the construction of a high level pier and two bulkheads in the lower division of Montreal harbour. Contract price, \$631,033.33. Work was commenced during the same year. During the fiscal year 1900-1, the expenditure amounted to \$49,296.45; in 1901-2, to \$201,722.69; in 1902-3, to \$251,320.47; in 1903-4, to \$209,104.96; in 1904-5, \$74,442.69, and in 1905-6, \$67,855.80.

During the last fiscal year, the stone surfacing was begun and about one-third of the whole quantity put in place.

At the close of the fiscal year, the state of the work may be summarized as follows:—

The work on walls and cribwork is completed, with the exception of a general overhauling and repairing of walls and copings, where defective. The refilling of the area between walls and behind the bulkheads is completed, except the work of levelling and grading the material to proper lines on approximately one-third the total area. The stone surfacing remains to be done on three-fourths the area of about 450,000 square feet.

When these works have been finished, the total work foreseen in the contract and the extras subsequently ordered may be considered complete. It may require a couple of months more.

7-8 EDWARD VII., A. 1908

MURRAY BAY.

The village of Murray Bay has a population of 3,500. It is situated on the north shore of the River St. Lawrence at the mouth of the River Malbaie, eighty-three miles below Quebec.

During the last fiscal year the northeast ladder slip was completely renewed; four fenders of the outer face of the wharf were replaced and minor repairs were made to the flooring.

The expenditure for the fiscal year 1906-7 amounts to \$688.19.

NEWPORT.

The village of Newport, in the county of Gaspé, is situated at the mouth of the river of the same name, on the north shore of the Baie des Chaleurs, eighty-eight miles east of Campbellton, N.B., and fifty miles west of Caplan.

Spring tides rise $4\frac{1}{2}$ feet; neaps, $2\frac{1}{2}$ feet. The population of the village is extensively engaged in fishing, which is carried on almost to the exclusion of all other pursuits.

The shore end of the old work was repaired, and a length of 35 feet had to be filled with stone and ballast.

The expenditure during the last fiscal year was \$261.36.

NOMINIGUE.

Nominigue, on the lake of the same name, is a post village in Labelle county, the terminus of the Canadian Pacific Railway, Laurentian Mountains Branch, twenty-three miles north of Labelle and one hundred and twenty-four miles northwest of Montreal.

During the fiscal year 1903-4, the construction by day labour of five wharfs, all of the same head dimensions, was commenced: two on Lake Grand Nominigue, two on Lake Petit Nominigue communicating with preceding one by La Barrière, and one on Lake Bourget, which is a broadening of River Sawga, flowing into Lake Petit Nominigue, about one mile from the village.

They consist of a round timber open-faced crib block, 31 feet 4 inches long, 21 feet 4 inches wide and 12 feet high, standing in 5 feet of water.

The approaches are of different natures and dimensions as follows:—

At Corbin's: 13 feet wide and 148 feet long, of which 108 is stone and 40 feet crib and span.

At Rodier's: 13 feet wide, 120 feet long, formed of three cribs and spans.

At Rivet's: 30 feet wide, all stone, with slopes 1 in 1 and 104 feet long.

At Labelle's: 13 feet wide and 58 feet long, formed of one 20-foot span and 38 feet stone.

At Laroche's: 13 feet wide and 12 feet long span.

During 1903-4, the sum of \$2,017.22 was expended. During 1904-5, the wharfs were completed with a further outlay of \$2,137.20.

In January last, a sixth wharf was built at the head of Lake Grand Nominigue, some seven acres east of the swing bridge and immediately opposite the Villa Bellevue. The headblock is of the same construction and dimensions as former ones, but only 10 feet high, standing in $4\frac{1}{2}$ feet of water. The 12-foot approach is formed of two cribs, 12 by 9 feet, with 20-foot spans, making approach 58 feet long. End of approach 125 feet from King's highway. Cost, \$652.39.

NOTRE DAME DU PORTAGE.

On the south shore of the St. Lawrence, six miles west of River du Loup, in the county of Temiscouata, is situated the village of Notre Dame du Portage; the place

SESSIONAL PAPER No. 19

is much resorted to by tourists in summer. Spring tides rise 19 feet; neaps, 13 feet.

During the year 1905, the construction of the wharf, which was begun in 1904, was continued; a length of 325 feet was completed and the expenditure for that year amounted to \$4,999.27.

During the fiscal year 1906-7, an addition, 75 feet long, 28 feet wide by a height of 23 feet was constructed; the work is close-faced, with upright posts every 20 feet, screw bolted to the face-timbers, with a batter of $\frac{1}{2}$ in 12.

The approach to the wharf, 60 feet in length, which was formerly built with stone, and had proved defective to stand the action of the waves, was rebuilt with cedar cribwork filled with stone.

The width of the wharf from the shore end, being only 20 feet, a handrail was placed on the east side, on a length of 400 feet.

The work was done by day labour, during the months of July, August and September.

Amount expended during the year, \$5,799.50.

PERCÉ.

Percé, the county town of Gaspé, is situated on the Gulf St. Lawrence, thirty-six miles from Gaspé basin.

On October 3, 1904, a contract was entered into with M. M. Lyons & White for the building of an extension of 150 feet to the northeast pier.

As the old pier had settled from 9 inches to over 2 feet in places, it was decided to level it and to bring the new work to the same height.

Total expenditure during 1906-7, \$12,994.

PETIT CAP.

A sum of \$100 was spent for removal of rocks.

PHILIPSBURG.

Philipsburg is an incorporated village in Missisquoi county, on the east shore of Missisquoi bay, two miles from St. Armand station. It is a port of entry.

In July, 1895, a contract was entered into for the construction of a wharf at this place. It was completed in 1897, at a cost of \$11,142.89, the municipality having contributed \$4,000 of above. It consists of a close-faced crib headblock 120 feet long and 25 feet wide, of trestle work approach 296 feet long and 30 feet wide, and of a stone and earth embankment 285 feet long and 30 feet wide at top with side slopes of $1\frac{1}{2}$ to 1. The outer face of breakwater is $17\frac{1}{2}$ feet high sunk in $7\frac{1}{2}$ feet of water at low level.

In April, 1897, the embankment was considerably damaged by ice. It was repaired in July following, including the refilling with stone of the ballast chambers along outer face of headblock. Total cost, \$711.79.

During April and May, 1903, the flooring of part of the headblock and approach was renewed. Some repairs were also made to the front sheathing and to the stone embankment, at a total cost of \$580.67.

In 1903-4 minor repairs cost \$15.19.

In the spring of 1905, the headblock was slightly damaged by ice. Repairs were made in August and September following at a cost of \$339.83.

On February 7 last, repairs to the flooring, not done the preceding year, were begun and about one-half completed on March 31.

POINTE À ELIE.

Pointe à Elie is the extreme southeasterly point of Albright island, two miles east of the House Harbour Catholic church. The steamer *Amelia* calls at Pointe à Elie for mails and freight, and for shelter during the northeasterly gales.

7-8 EDWARD VII., A. 1908

The construction of a landing pier and a breakwater will give here the best of shelter for all storms, and especially from easterly gales that prevail in the spring.

During the fiscal year 1902-3, a length of 115 feet by 22½ feet wide of the pier proper was built; 850 feet of roadway, 25 to 50 feet wide, and of an average height of 9 feet, was also built of stone with a timber facing held in place by walings, posts and cross-ties.

During the fiscal year 1903-4, 195 feet by 24½ wide was built.

During the fiscal year 1904-5, a crib of 100 feet long by 26 feet wide was built up to 18 inches above low water level and secured into position.

During the winter, 1904-5, the last crib built up to 18 inches above low water mark suffered greatly through ice and heavy storms, the top timbers were carried away and a large part of the stone ballast thrown out. The services of a diver were required for a full month, to gather the stone ballast around the pier and help in the reconstruction of the part of the pier under low water mark.

During the last fiscal year the 100-foot crib commenced, was placed into position and completed and a new crib 100 feet was built ashore and the roadway widened in places by blasting and removing solid rock.

Spring tides rise 4 feet; neap tides, 2 feet.

The expenditure during the last fiscal year was \$7,031.10.

POINTE AUX ESQUIMAUX.

Pointe aux Esquimaux, in the united counties of Chicoutimi and Saguenay, is situated on the northern shore of the St. Lawrence, 525 miles below Quebec. Pointe aux Esquimaux is the chef-lieu of the north shore and most important trading post of that region for the traffic of fur, fish and oil.

The wharf purchased by the government in 1895 had a length of 125 feet and a width of 30 feet.

In 1895-6, it was lengthened 60 feet by the construction of a block, 30 by 30 feet and 32 feet in height, connected with the old work by a platform 30 feet in length. Amount expended, \$4,028.43.

During the year 1902-3, a block, 30 by 30 feet and 50 feet high, in 41 feet of water, was built 15 feet from the outer end of the wharf and connected thereto by stringers, 10 by 12 inches, and 3-inch tamarack deals. Expenditure, \$1,633.78.

During the fiscal year 1903-4, a crib, 30 by 30 feet, was built and sunk alongside of the work built in 1903. As the new work is expected to settle to a certain extent, its top was only finished in a temporary manner. Expenditure, \$5,099.93.

During the year 1904-5, the pier was completed and superstructure of the pier built in 1902-3 was raised and completed. The wharf is now 213 feet by a width of 30 and 40 feet, with one outer block, 30 feet in length, 68 feet in width and 50 feet in height, and there is a depth of 40 feet of water at low water spring tides. The shed, which was an obstruction on the wharf, was removed to the side and repaired. Expenditure, \$1,717.30.

During the fiscal year 1906-7, a portion of the shed, after being removed, was planked with 3-inch spruce and the flooring repaired. Expenditure, \$572.07.

POINTE VALOIS.

Pointe à Valois, county of Vaudreuil, is situated on the south shore of Lake of Two Mountains, four and a half miles west of the village of Vaudreuil, and two and a half miles east of Como.

In 1889-90, the old pier at this place, measuring about 80 feet by 16 feet with the headblock of 45 feet by 20 feet and right of way thereto, was purchased from Chs. Valois for the sum of \$690.

During the fiscal years 1890-1-2, the original pier was extended by adding, at the outer end, a block of ballasted cribwork, 135 feet long by 21 feet wide, with a return

SESSIONAL PAPER No. 19

to the eastward 55 feet by 25 feet; the total length of the work from the shore being thus increased to 235 feet. The depth of water available at the outer end of the wharf is now $6\frac{1}{2}$ feet at low water.

During the fiscal year 1896-7, a sum of \$210.72 was applied in effecting general repairs on this wharf.

In 1899, general repairs were made for a sum of \$104.97.

During the fiscal year 1900-1, more extensive repairs were made at a cost of \$805.60.

During the spring of 1905, the headblock and stone approach were slightly damaged by ice and repaired at a cost of \$204.71.

In May and June, 1906, considerable improvements were made to the approach; the 20-foot span connecting said approach raised 1 foot and topped with a layer of gravel and small broken stone; a substantial guard-railing composed of 8-inch cedar posts every 10 feet and $1\frac{1}{2}$ -inch iron pipes, completed the repairs at a total cost of \$600.

During last autumn, the whole headblock was razed to low water level and entirely rebuilt at a cost of \$964.95.

PORTNEUF.

Portneuf is a village, in Saguenay county, situated on the north shore of the St. Lawrence, about fifty miles below Tadousac.

During the session of parliament 1903-4, an amount of \$1,000 was voted for the construction of a wharf in the bay.

Work was commenced, and a pier, 40 by 20, was sunk in 7 feet of water.

When completed, the work will consist in a wharf of 160 feet in length, built in two piers and an abutment.

The outside pier will be an 'L,' 40 feet in length by 20 feet and 60 feet in width; the outer pier will be 20 by 20, the abutment, 40 by 20, with a space of 25 feet between the abutment and each pier. Amount expended \$1,000.14.

During the year 1905-6, the work done was the continuation of the wharf; the abutment, 40 by 20, two piers, 20 by 20, and a portion of the outside pier were built.

The work is of round logs, corbels and stringers 12 by 12, surrounded with fenders; a portion of the planking is done with 3-inch spruce deals. Expenditure \$3,999.84.

During the fiscal year 1906-7, the wharf was completed, except a very small portion of the sheathing.

Amount of expenditure, \$2,983.44.

QUEBEC HARBOUR.

In order to afford more accommodation for large ocean steamers to land immigrants and general freight in the harbour of Quebec, the department decided, in 1902, to build an extension in a northerly direction, to the breakwater built many years ago on the river front of this harbour. The total length of the extension is 1,460 feet, which, with the 800 feet of the old work, will form four berths for the largest steamers; a return of 200 feet is also to be built at the lower end of the work.

The work consists of timber cribwork, 46 feet 6 inches wide at the base, 21 feet wide at the top, filled with stone ballast, and built to a height of 3 feet above low water spring tides, the cribs are founded on a bed of rubble stone 4 feet in thickness deposited on the sand bottom previously dredged to a depth of 46 feet at low water spring tides, leaving an available depth of 42 feet at the outer face of the cribs.

From the level of 3 feet above low water spring tides, the superstructure, 21 feet in height, is built of concrete, 16 feet wide at the base, 4 feet wide at top and stands 6 feet above high water spring tides; the back of the cribs and concrete superstructure is filled with earth for a width of 150 feet from the outer face of the concrete superstructure, forming an embankment which will increase the available top area by over 300,000 superficial feet.

7-8 EDWARD VII., A. 1908

The work is being carried on under four different contracts with E. Dussault & Co., of Levis, Que., for the total sum of \$770,389.75. The first contract was signed on May 8, 1903, and the last on March 30, 1906; work was commenced in May, 1903.

At the end of fiscal year ending June 30, 1906, the work had been completed over a length of 960 feet, including the back earth filling and the amount then expended was \$434,221.87.

During the fiscal year, 1906-7, the crib seats were dredged out, the rubble stone deposited and the cribs were sunk over a length of 500 feet, the last crib also included 82 feet of the 200 feet return work, all the cribs were fully ballasted and the back filling brought up to the level of the top of the cribs, being a height of 45 feet from bottom.

The new work is now partly utilized for landing passengers and freight, by the Empress steamers of Canadian Pacific Steamship Company.

The amount expended on this work, including dredging, during the fiscal year ending March 31, 1907, was \$151,404.97.

The total amount expended since the beginning of the work is \$578,239.22.

REPENTIGNY.

Repentigny is a post village in L'Assomption county, on the St. Lawrence, two miles from St. Paul l'Ermite, on the Great Northern, and seventeen miles northeast of Montreal.

In August, 1904, a contract was entered into with Lachance Brothers, of Ottawa, for the construction of a wharf, opposite the Juneau property, about $\frac{1}{2}$ mile from the village, for the sum of \$10,975. It called for the building:—

1. Of a close-faced crib headblock, 73 feet 6 inches long by 40 feet wide, standing 19 feet high in 7 feet 3 inches of water;
2. Of a close-faced crib approach, adjoining headblock, of a length of 230 feet and a width of 16 feet;
3. Of a stone approach, 435 feet long and 18 feet wide at top, with slopes of 1 in 1 on both sides, the whole forming a length of 705 feet.

In order to place the proposed wharf the nearest possible to the centre of the village, a change of site was decided and that opposite the Telephore Thouin property chosen, thereby lengthening the stone approach from 435 feet to 748 feet, and the whole structure from 705 to 1,018 feet, but without modifying in any way its other dimensions. A further arrangement was made in December with the contractors, whereby they agreed to the change at an extra of \$5,039 above original contract price.

A right of way, 620 feet and 50 feet wide, was bought from Mr. Thouin at a cost of \$100.

Work was begun early in January, 1905, and suspended on account of high water at the end of March of the same year. The stone approach was then two-third completed and the cribwork approach built to a mean height of 6 feet and fully ballasted. Expenditure during 1904-5 was \$6,498.95.

Construction was renewed in September following. At the end of June, 1906, the crib headblock and crib approach were completed, except the last two tiers and the flooring. Some 60 toises of stone and riprapping on both sides would complete the stone approach. Expenditure during 1905-6, \$5,530.50.

At the end of fiscal year 1906-7, about ninety-two per cent of the work had been done.

Expenditure during last fiscal year, \$5,079.

RIMOUSKI.

The town of Rimouski, in the county of the same name, is situated on the south shore of the St. Lawrence, 180 miles below Quebec, its population is about 3,500

SESSIONAL PAPER No. 19

inhabitants. It is an important station of the Intercolonial railway. It is also the place where the royal mails are transferred from steamers to the railway.

Spring tides rise 15 feet; neaps, 9 feet.

The widening, repairing and other works of improvement, undertaken at the Rimouski wharf, in May, 1904, and carried through the year 1906, were continued during the nine months ended March 31, 1907. The main body of the wharf was widened on a further length of 132 feet, by the addition of two cribs, 66 by 20 by 32; these cribs were completed and sheathed with elm 6 inches. The wharf is now 40 feet wide upon a length of 958 feet from the inner end.

On the new part of the wharf, the top planking was laid on a surface of 9,125 square feet, with spruce deals 3 inches thick. The planking, stringers course of ties have been renewed on a length of 425 feet, on the old part of the wharf.

A surface of 4,640 square-feet, upon the head of the wharf, was raised 5 feet; all cross-ties, stringers and planking being renewed. Seventy-five pine sheet piles, 40 feet long, and 10 by 10 inches, were placed along the outer face of the head of the wharf and sunk 15 feet into the bottom.

Elm sheet piles 6 inches thick have also been placed along the eastern face of the wharf, on the length of 140 feet and driven 8 feet through the bottom, and 22 mooring posts were renewed.

Minor repairs and dredging were also performed. These works have been done by day labour at the cost of \$38,474.11.

RIMOUSKI RIVER.

The Rimouski river empties into the St. Lawrence, at about three-quarter miles from the church of the town of Rimouski.

A very large quantity of logs are driven down the river every spring.

The firm of Price & Co. operate an extensive saw-mill at the place and also a pulp mill, which is built a few miles up the river.

Both the lumber and the pulp are loaded in steamers through lighters.

Wharfs are built at the mouth of the river, but a considerable amount of tide is necessary to allow boats to draw near. During the months of July, August and September, work was done to improve the channel. Much blasting has been performed and a large quantity of boulders and other scattered rocks were broken and removed.

During the period of extreme low water, hand dredging was done to lower the shoals and to widen the entrance.

RIVIÈRE À LA PIPE (OR ST. HENRI DE TAILLON).

Rivière à la Pipe is a small village situated on the north shore of Lake St. John, at the mouth of the river of the same name, seven miles north of Grande Décharge.

The wharf is situated at a point of lot No. 118, township Taillon, about one mile westward of Rivière à la Pipe. It is built in a southerly direction, for a length of 214 feet and a width of 25 feet, and extends to 4 feet depth of water at ordinary low water.

It was built of close-faced cribwork up to 18 feet, during the year 1897-8, and will stand 25 feet high, when completed.

The Quebec government has built a good road from the public road to the present wharf, a distance of two miles.

During the year 1899, an addition, 50 feet long, 30 feet wide, was built at the outer end of the wharf, to facilitate the approach.

During the year 1900, the outer block was raised 5 feet, sheathed for a length of 120 feet and replanked; 35 toises of stone were also placed in the work, at the cost of \$999.68.

During the year 1904-5, a certain quantity of timber was bought, in view of the extension of the wharf. Cost, \$962.40.

The outside pier, which is 30 by 50 feet, was unloaded. Amount expended, \$332.02.

7-8 EDWARD VII., A. 1908

During the year 1905-6, the pier, 30 by 50 feet, was removed and placed at a distance of 219 feet from the old wharf, to form the outer end.

Two cribs, 20 by 25, were built open-faced, at 30 feet from the old work and 25 feet apart. Amount expended, \$3,684.69.

During the fiscal year 1906-7, one of the two piers, having been moved by ice, had to be partly rebuilt; a damaged portion of the wharf near shore end, 30 feet in length, was also repaired.

A third pier was built and the superstructure over the two first was constructed; corbels and stringers, 12 by 12, were laid, and planking was made of 3-inch spruce deals.

The three piers, the shore end and the pier removed last year were fully ballasted with stone.

A certain quantity of timber and stone is on hand to continue the work. Amount expended during the year, \$2,981.06.

RIVIÈRE AU RENARD.

Rivière au Renard is one of the most ancient settlements in the county of Gaspé. It is the first important fishing station and business place met with proceeding from Gaspé Basin along the south shore up the St. Lawrence. The population is estimated at 1,700.

A small landing pier was constructed in 1895-6. In 1899-1900 the sum of \$870.51 was expended for materials, such as timber, iron, plant, tools, freight, &c., towards the construction of a landing pier and breakwater.

During the fiscal year 1900-1, the sum of \$2,013.36 was expended in purchasing additional timber. Work was started in May, and on June 30, 190 feet of close-faced cribwork 5½ feet high, 28 feet wide at bottom and fully ballasted, was in place.

On June 2, 1903, a contract was entered into for the building of an additional length of 600 feet. The work was completed during the last fiscal year.

Expenditure in 1906-7, \$5,423.50.

RIVIÈRE BLANCHE.

The village of Rivière Blanche or St. Ulric de Matane, county of Rimouski, is on the south shore of the St. Lawrence, twenty-one miles east of Métis and nine miles west of Matane.

Spring tides rise 14 feet; neaps, 8 feet.

During the fiscal year ended March 31, 1907, the wharf was sheathed with hardwood planks 6 inches thick, upon a length of 53 feet by a height of 10 feet on the northerly side; 44 by 19.6 feet on the south side, and 27 by 19 by 19 feet on the east side.

The top planking on the head of the wharf was renewed, on a surface of 3,700 square feet, with 3 inches thick spruce deals.

A middle pathway, 7 feet wide, has been placed upon a length of 460 feet. Two hundred and forty-four feet of cappings were renewed and three ladders have been placed where needed.

Total expenditure in 1906-7, \$1,499.97.

RIVIÈRE DES QUINZE.

This river flows into the northeast extremity of Lake Timiskaming, just east of the Ontario boundary. There are several timber cribs for the purpose of booming the logs before entering the lake. One of the channel piers was burnt and its stone filling became a menace to navigation.

On October 31, 1906, that stone was removed to an adjacent pier, by the snag-plant, which also removed, the next day, four snags obstructing the channel. This work was done under the Blanche river appropriation, at a cost of some \$50, when plant was being moved into winter quarters, at the foot of the lake.

SESSIONAL PAPER No. 19

RIVIÈRE DU LIÈVRE LOCK.

This lock is situated at Poupore, on Rivière du Lièvre, twelve miles above Buckingham, in the county of Labelle. It was built to overcome the little rapids at that place and to drown the long rapids, seven miles farther up the river, thus giving a continuous stretch of navigation as far as High Falls, a total distance of nineteen and a half miles; this waterway is indispensable to the settlers of the upper part of the Lièvre, who have no railway accommodation and only a poor highway, opened some few years ago.

Various amounts aggregating \$10,053.68 were expended from 1881 to 1887 in improving the river, through both rapids to High Falls. Navigation still remaining unsatisfactory, it was decided to build a lock and dam. Construction started in 1887, and was completed on April 19, 1892, when the first boat was locked through. The cost of the construction amounted to \$233,658.65. Owing to the flooding of land caused by the construction of the dam, amounts aggregating \$4,752.74 were paid as damages. (For further particulars of construction, see report for fiscal year 1899-1900.)

During the year 1893-4, the sum of \$1,244.94 was expended in removing boulders obstructing the channel through Long Rapids. In the autumn of 1903, this channel was further improved by removing thirty-five boulders, varying in size from 10 to 90 cubic feet, at a cost of \$880.

In the month of April, 1900, a landslide from the east bank of the river, one and a half miles below the lock, deposited some three acres of land and vegetation. The waterway was completely obstructed for a short time, until a new channel was scoured out in the west bank of the river, but not of sufficient depth for the steamers plying these waters. A channel, 60 feet wide and 6 feet deep was made by digging out the earth, and trees, at a cost of \$2,259.05.

On October 11, 1903, an extensive landslide destroyed about 100 acres of land under cultivation, farm houses, outbuildings &c., on the west bank of the Lièvre, just below the lock and dam. The immediate effect of this cataclysm was to completely choke the river for several hours, backing the water until the increased head caused the scouring of channels, through the clay which filled the river bed on a distance of one mile below the dam. Upstream, the energy of the flowing clay was expended in destroying the superstructure of the dam and jamming the lock gates, filling with debris the lock chamber and river bed to a point 700 feet above the dam.

A portage road, one and half miles long (including one half mile of public highway) and freight sheds above and below the obstructed channel, were built in the autumn of 1903, and the congested traffic was controlled by establishing regular portaging, at a cost of \$3,641.66. This service considerably raised the average cost of maintenance through the navigation seasons of 1904-5-6. The dam, log slide, retaining walls, training dikes, boom piers and booms have since been replaced or reconstructed at a cost of \$63,732.06. The total cost of maintenance to March 31, 1907, since formal opening of lock in 1892, amounts to \$28,999.27 and the cost of ordinary repairs and improvements to March 31, 1907, was \$13,079.76. (For further particulars of reconstruction on account of landslide, see report for fiscal year 1905-6.)

A dredge was built in 1896, at a cost of \$21,599.98, also two dump scows, a coal scow and a wood scow, costing respectively \$3,900, \$3,623.23 and \$1,150. In the autumn of 1906, this plant improved navigation over a distance of some 3,000 feet through the clay deposit, resulting from the landslide of 1903, at a cost of \$3,029.56.

7-8 EDWARD VII., A. 1908

Expenditures summarized:	1906-7	To Date
Removing obstructions.. . . .		\$ 14,437 67
Construction, lock and dam.. . . .		233,658 65
Claims for damages.. . . .		4,752 74
Repairs and improvements	\$ 565 10	13,079 76
Maintenance.. . . .	4,455 49	25,999 27
Reconstruction, dam, piers &c.. . . .		63,732 06
New dredging plant.. . . .	5,002 86	30,273 20
Dredging.. . . .	3,029 56	3,029 56
Total expenditures.. . . .	\$13,053 01	\$391,962 91

RIVIÈRE DU LOUP.

Rivière du Loup, or the town of Fraserville, is chef-lieu of the county of Témiscouata. It is situated on the south shore of the St. Lawrence, 114 miles below Quebec. It is a thriving little town of over 4,000 inhabitants, which contains several manufacturing, including two pulp mills.

The Rivière du Loup point, where the wharf is located, is distant two and a half miles from the village. It is one of the best known and most frequented summer resorts of the St. Lawrence.

Spring tides rise 19 feet; neaps, 12 feet.

Owing to the action of the ice and waves, and the considerable wear and tear due to the heavy lumber traffic, annual repairs are required on that wharf.

During the nine months of the fiscal year ended March 31, 1907, the following works were performed:—

The trestle work, supporting the railway track on the wharf, being considered unsafe to carry the weights of trains, was demolished on a length of 775 feet, and rebuilt with pitch pine 12 by 12 inches; the mean weight of the trestle being 3 feet, a new planking was laid on the top of it.

Eighty spruce fenders, 10 by 8 inches and 25 feet long, were placed along the eastern face of the wharf.

A surface of 8,750 square feet of the face timbers has been sheathed with spruce 5 inches thick, and 3,500 square feet sheathed with black birch 6 inches in thickness; the hardwood sheathing of the outer face was also repaired.

At the shore end, on the north side, the face timbers have been renewed with cedar, on a length of 70 feet and a height of 5 feet. The stairway, on the east side, near the outer end, was entirely renewed, and the slip, on the inner side of the head of the wharf, has also been repaired.

Lastly, the pavement on a surface of 2,500 square feet was renewed.

The work was done by day labour at a cost of \$3,741.04.

RIVIÈRE GODFROYE.

Rivière Godfroye is a small river in Nicolet county, rising in the seigniorship of Roque Taillade and flowing into the St. Lawrence through the parish of St. Grégoire, opposite Three Rivers.

On June 11, 1906, a contract was entered into with Mr. John O'Shaughnessy, of Nicolet, for the construction of a landing pier, at the entrance of the river, the contract price being \$4,200. It called for the construction of:—

(a) A pile headblock, 32 feet 3 inches wide, formed of two portions, one measuring 60 feet 6 inches also on the outside face, the two making an angle of 125 degrees.

(b) A stone approach, 611 feet long, 16 feet wide clear at top with slopes on both sides, said approach making an angle of 25 degrees with the longer face of headblock.

The whole structure standing 11 feet 3 inches above low water level.

Work was begun in July and completed August 18 following.

SESSIONAL PAPER No. 19

A small extra of \$75 was allowed the contractor for the construction of a small low water stone slip on the upstream extremity of wharf and approach. Total expenditure, \$4,410.

RIVIÈRE JESUS, AT ST. EUSTACHE.

St. Eustache is an incorporated village in Two Mountains county, on the Canadian Pacific Railway and on Rivière Jesus, some seven miles southwest of Ste. Thérèse, or twelve miles west of Montreal.

The channel between St. Eustache and Ste. Rose, some seven miles downstream, being partly obstructed by boulders, these were removed in September last and a few beacons, about ten, were placed at different places, as an aid to navigation. Expenditure, \$3,321.11.

RIVER NICOLET.

River Nicolet rises in Lake Nicolet, Wolfe county, and falls into Lake St. Peter three miles below Nicolet, in Nicolet county. Length, sixty miles. It is a rapid stream, but navigable to some distance above the town.

In order to protect the schooners loading in the harbour from the force of storms on Lake St. Peter, a jetty was commenced in 1881 and added to every successive year. It was originally 3,500 feet long, made of two rows of close piles, 13 feet distant, and filled with stone. It stood four feet above low water with an average height of 5½ feet.

In 1891, some piling was done, making jetty 3,762 feet long.

Dredging in the river and repairs to the jetty were done yearly at a cost as follows:—

Year 1882 to June 30, 1900, construction, repairs and dredging.	\$148,780 54
“ 1900-1, dredging and repairs.	7,489 19
“ 1901-2, dredging and repairs.	4,795 88
“ 1902-3, dredging.	3,999 27
“ 1903-4, dredging.	11,723 81
“ 1904-5, construction, repairs, dredging.	10,320 53
“ 1905-6, repairs and dredging.	9,483 40
“ 1906-7, repairs and exclusive of dredging.	5,002 75
Total to March, 31, 1907.	\$201,595 37

Out of the expenditure 1904-5, a small wharf was built during February and March, along the river about 1½ miles from Nicolet and opposite the old Ball mills. It was made of close-faced stone filled crib block, 80 feet long, including ice breaker, inclined 1½ in 1 and 31 feet wide. A right of way to above wharf, 250 feet long and 80 feet wide, was purchased from Mr. C. Proulx, at a cost of \$400. Total cost of wharf and right of way, \$3,303.06.

In 1905-6, the repairs to jetty were made in June, July and August, 1905, and June, 1906. For a length of 1,800, the jetty was raised, with stone, 2 feet on its whole width of 13 feet and for another 1,500 feet, it was protected on upstream side by a stone icebreaker, inclined 2 in 1 with an 8-foot base. Some further protection filling was done at the outside end for a length of about 100 feet.

From August to the end of October last, some 3,000 cubic yards of stone were placed all along the jetty. Done by day labour.

Expenditure in 1906-7, \$6,330.65.

RIVIÈRE OUELLE.

The pier is situated at Pointe aux Orignaux, five miles distant from the village of Rivière Ouelle, in the county of Kamouraska, on the south shore of the St. Lawrence, opposite Murray Bay, on the north shore.

7-8 EDWARD VII., A. 1908

A branch of the Intercolonial railway built from Rivière Ouelle station to the outer end of the wharf, bears trains connecting with a steamer which crosses the St. Lawrence, several times a day during the summer season, calling at Murray Bay and other places on the north shore. In winter the service is also daily.

Spring tides rise 20 feet; neaps, 12 feet.

During the fiscal year the work done by day labour consisted in renewing the hardwood sheathing: 31,438 feet, B.M., of black birch, 6 inches thick and 18,194 feet of tamarack, 3 inches in thickness were used to renew the sheathing on both sides of the wharf. Five ladders were placed where needed.

On January 5, 1906, a contract was awarded for the construction of a spur at the western end of the head of the pier; the work was carried out and nearly completed during the nine months of the fiscal year ended March 31, 1907.

The crib is 50 feet long, 33 feet wide and 41 feet high; it is built of round timbers, 13 inches in diameter at the small end; from the level of 3 feet below low water spring tides, the sides and outer end are sheathed with concrete 18 inches in thickness, moulded with a batter of $1\frac{1}{4}$ in 12.

The work is intended to afford protection against ice for the ferry boat when standing at the outer end. The contract price is \$7,745.

The total expenditure for the fiscal year was \$10,356.87.

RIVER RICHELIEU, ICE PIERS (AT ST. JOHN'S).

St. John's, the chef lieu of the united counties of St. John's and Iberville, is situated on the Richelieu river, twenty-seven miles southeast of Montreal.

In order to give much needed assistance to boats passing through the swing span of the Vermont Central Railway bridge, a boom was constructed. It has a length of 350 feet by a width of 4 feet, and is moored to clusters of six piles each, driven 15 feet into the ground, every 50 feet, except the upstream cluster, which has ten piles and is protected against the ice by a steel plate, 6 feet by 6 feet, $\frac{1}{16}$ -inch thick. The piles of each cluster are well secured together by bolts. The boom stands in 9 feet of water at extreme low water level, and in 14 feet at extreme high water level. The timber used is 12 by 12-inch hemlock for the booms, and round pine and oak, 14 inches at butt end, for the piles. The work was commenced in November, 1900, and completed in April, 1901, at a cost of \$1,504.45.

In 1902-3 minor repairs cost \$8.73.

During the spring of 1904, the head and two intermediate clusters of piles were broken by the ice, and the boom was also much damaged. A close-faced cribwork ice-breaker, 20 by 12 feet and 18 feet high was built in place of the head cluster of piles to moor the bottom; the two broken clusters of piles were renewed, the boom was repaired and sheathed diagonally with 3-inch pine deals. The work was carried out by day labour at a cost of \$1,259.88.

In 1904-5 minor repairs to piles and boom cost \$206.64.

In March last, the fourth ice pier was also entirely rebuilt in close-faced cribwork, properly ballasted with stone. The pier is 12 feet by 16 feet for a height of $10\frac{1}{2}$ feet from bottom, and 3 feet 9 inches by 12 feet at top, the upstream face being slanted $1\frac{1}{2}$ in 1, sheathed with 8-inch spruce and covered at corners with $\frac{3}{8}$ -inch steel plates. Expenditure in 1906-7, \$767.36.

RIVER ST. FRANCIS (AT RICHMOND).

Richmond, an incorporated town in Richmond county, is situated on the St. Francis river, it is a station on the Grand Trunk Railway, and is seventy-six miles from Montreal. It is connected with Melbourne, on the opposite side of the river by a municipal iron bridge.

During the spring freshets, almost every year, the town of Richmond is flooded to a height of 5 or 6 feet owing to ice-jams formed in the River St. Francis, at a

SESSIONAL PAPER No. 19

place called 'the Narrows.' In order to prevent the occurrence of the ice-jams and the consequent floods, which have caused considerable damages in past years, it was decided to build four ice-breakers, three above 'the Narrows' and one above and opposite the pier of the municipal bridge. In December, 1902, a contract was entered into with Mr. Ross, of Richmond, for the construction of the four ice-breakers, for the sum of \$10,317. The work was commenced in February, 1903, and completed in December the same year.

Later, it was decided to build four additional ice-piers, 150 feet above a dam, in the St. Francis river, about ten acres upstream of the bridge. The object of those ice-piers is to retain the ice which runs over the dam during the winter and forms a large accumulation of ice a few hundred feet below the said dam, and contributes largely to the spring floods. To that effect an agreement was entered into with the contractor, September 28, 1903, for the construction of four additional ice-piers of closed-faced cribwork, 18 by 12 feet to a height of 2 feet above the level of the water, fully ballasted, for the sum of \$4,000. The work was completed in December the same year.

In June, 1904, the slanting faces of the four ice-breakers were sheathed with $\frac{3}{4}$ -inch steel plates, and the upstream corners of the four ice-piers above the dam, sheathed with $\frac{1}{4}$ -inch steel plates at a cost of \$628.91.

During March last, the three piers above the 'Narrows' were resheathed on north-east side with 3-inch pine planks and reinforced on the southwest side with some 260 cubic yards of stone. Nine $\frac{3}{4}$ -inch steel plates to protect these piers were bought but could not be put in place on account of the high level of the water.

Expenditure, including dredging, in 1906-7, \$11,154.88.

RIVER ST. LOUIS.

Improvements near St. Louis de Gonzague.

St. Louis de Gonzague is a post village in Beauharnois county, on the Grand Trunk Railway, ten miles from Beauharnois and thirty-five miles southwest of Montreal.

During the spring high water, the River St. Louis spreads over the farming lands from the canal feeder to the village of St. Louis de Gonzague, a distance of about seven miles, and thus causes considerable damage. During the summer, the river often overflows after a heavy rain storm, and extensive fields of promising crops have been entirely lost.

Surveys of the river were made in November, 1903, and October, 1904. It was found that from the village of St. Louis de Gonzague to a distance of $2\frac{1}{2}$ miles upstream, several little rapids give a total fall of 6 feet. Above the canal feeder, the fall is about 1 foot per mile.

By proper deepening of the river bed and straightening of certain curves, the waters should be lowered some 4 feet, which would amply be sufficient to protect the farmers along the banks.

To this effect, a small dredge was built during the winter of 1903-4 and placed in operation in October, 1904.

At the end of June, 1905, a cut had been made through a point known as Simmon's, a 28-foot long and 12-foot wide steel span composed of 4 fifteen-inch 42 pounds I beams with 8-inch channel connections, had been erected in order not to interfere with the roadway, and the necessary dynamiting and dredging through hard-pan and large boulders up to half way through the lower rapid about 1,000 feet from Simmon's mill. The total expenditure 1904-5, including dredge operating staff, but exclusive of cost of dredge, was \$6,407.28.

During 1905-6, some 5,000 cubic yards of rock and hard-pan was blasted and removed in the making of a cut 700 feet long, 40 feet wide and of an average depth of 5 feet. General dredging including that of blasted materials was done for a length

7-8 EDWARD VII., A. 1908

of about 1,500 feet. Expenditure during year was \$7,101.74. The dredging and blasting was continued in July last and suspended in October, to be resumed with next year's appropriation. Besides, the regulating gates of the canal feeder being found in a dangerous state of decay, work of reconstruction was begun in September and completed in the middle of October last. The new $\frac{5}{8}$ -inch steel gates, 4 in number, $8\frac{1}{2}$ feet high and 4 feet wide, rest on a skeleton of concrete mixed 1:3:5 and properly reinforced with $1\frac{1}{2}$ -inch iron bars embedded horizontally and vertically. The doors are lifted, sliding on copper grooves, by 2-inch iron screws turned by wheel handle. The top of gates used as a highway bridge, the flooring being concrete, 22 by 22 feet and from 18 to 24 inches thick. The retaining walls on both sides are 2 feet thick at bottom, 18 inches at top, with 45 degrees return wings and a handlaid stone backing. The whole structure rests on a 1 foot concrete platform 28 by 24 feet and stands, from under said platform to top of flooring, from 14 to $14\frac{1}{2}$ feet high.

Expenditure for fiscal year 1906-7, \$7,147.38

RIVIÈRE VERTE (GREEN RIVER).

Green river, which flows through the parish of Isle Verte, empties into the St. Lawrence, about $\frac{3}{4}$ of a mile west of Isle Verte church. During spring freshets, this river is liable to cause considerable damage by flooding the mills, scouring and disintegrating the land of the riparian properties.

In order to prevent further damage, or at least, to reduce it to the lowest possible amount, it was decided to improve the channel of the river, to facilitate the water-flow in the spring.

To that effect the following works were performed:—

A new channel, 800 feet long, 20 feet wide, was opened on the west side of the river; a dike 200 feet in length, 8 feet high, with widths of 16 feet in the base and 8 feet at the top, was built of open-faced cribwork, filled with stone, with a water-tight sheathing in front. These works were done during the months of November, 1903, and May and June, 1904.

The amount expended was \$3,698.

The work was continued during the year 1904-5, a second cribwork dike was commenced on the east side of the river, and a length of 275 feet was constructed; it had widths of 10 and 20 feet at the top and bottom respectively and a mean height of 10 feet; the rear side was vertical and the front inclined 1 in 1.

The amount expended during that year was \$5,499.61. A large quantity of timber, left on the site and paid for, was available for further works.

During the year 1905-6, the work was resumed and completed; the dike on the east side of the river was extended by the construction of a section 265 feet long; the whole length of this dike being now 520 feet. The main channel of the river was widened and deepened on a length of 800 feet.

The whole work was done by day labour.

The expenditure for that fiscal year was \$5,800.49.

The cribwork dike built in 1904, on the west side of the river, having proved not high enough, it became expedient to raise it.

During the fiscal year of 1906-7, this dike which is 220 feet long, was raised 3 feet; its total height being now 13 feet. It is expected in its present state, to afford the protection and meet the requirements for which it has been designed.

Expenditure during last fiscal year, \$999.75.

ROBERVAL.

The town of Roberval, in the county of Chicoutimi, is built on the east side of the River Outchouanish, near its mouth, on the south shore of Lake St. John and 200 miles east of Quebec. It is the northern terminus of the Roberval branch of the Quebec and Lake St. John Railway.

SESSIONAL PAPER No. 19

In 1892-3, the department purchased from Mr. H. G. B. Beemer, for the sum of \$750, together with right of way to the public road, an isolated block of cribwork, 75 feet long by 30 feet, at the mouth of the river, 425 feet from the shore of the lake.

During 1892-3 and 1893-4, this block was connected with the shore by means of an approach, 425 feet long by 25 feet wide, at a cost of \$5,469.06.

In 1894-5, a headblock, parallel with the shore, 50 feet by 30 and 30 feet in height, with a slip at the outer end, was added, and the entrance to the harbour was deepened and widened. The cost of this work was \$4,200.41.

This pier, as completed in 1895, was 500 feet long and 25 feet wide generally, with the exception of the headblock, which measures 50 feet by 30, and has 8 feet of water along its face, at low water, and 19 feet, at high water, during the season of navigation.

During the year 1896-7, a combined freight and shelter shed, 45 by 24 feet, was erected on the headblock at an expense of \$425.98.

In 1899, the wharf was destroyed by fire and rebuilt in 1900-1, for a length of 500 feet, a width of 30 feet and a height of 23 feet; a waiting room, 15 by 18 feet, and a freight shed, 15 by 28 feet, were erected on the wharf. Amount expended, \$9,747.82.

During the year 1902-3, the wharf was enlarged on the south side for a length of 60 feet by 15 feet in height; a trestle work was built of spruce timber with four stringers of 12 by 12, ready to receive the sleepers. Amount expended, \$4,581.59.

During the year 1903-4, the greater portion of the trestle work, done the previous year, was planked with 3-inch plank; stringers were laid, resting on a cap piece of 12 by 12. The stringers are 10 by 10 inches and covered with planking of 3-inch deals. Amount expended was \$625.55.

During the year 1905-6, the planking of the trestle work commenced in 1903-4 was completed. Amount expended, \$1,002.81.

During the fiscal year 1906-7, the planking and the sheathing of the wharf were repaired. Amount expended, \$16.88.

During the year, the Quebec and Lake St. John Railway Company have built a track from the wharf to the main line.

SABREVOIS.

Sabrevois is a post village in Iberville county, on the Richelieu river, seven miles south of Iberville.

In order to better accommodate the traffic by waterway to and from this place, an old wharf together with a 30-foot right of way from the public road to the river, a distance of 1,372 feet, was purchased in 1899 from Mr. Wm. Ryan, for the sum of \$500. A new structure was immediately begun in February, 1900, by day labour, and completed in November following, at a cost of \$6,573. The wharf consists of:—

(a) Stone embankment, 200 feet long and 20 feet wide, with slopes of 1 in 1 on both sides.

(b) A trestle approach 120 feet long and 24 feet wide.

(c) A pile headblock 108 feet long and 30 feet wide, with a cribwork ice-breaker at upstream end.

In June, 1902, the sum of \$988.07 was expended in, raising, improving and fencing the roadway.

During the early spring of 1903, the roadway was under water for several days and greatly damaged. From March to June, 1904, the road was raised with stone and gravel 2 to 3 feet for a distance of 500 feet from the wharf and 15 feet at top. Expenditure, \$693.14.

In August last, the flooring of the headblock, being in a dangerous state of decay, was partly renewed at a cost of \$104.51.

7-8 EDWARD VII., A. 1908

ST. ALEXIS.

St. Alexis, on the south shore of Ha! Ha! bay, River Saguenay, is about sixty-three miles from its mouth.

In order to accommodate the increasing trade of the locality and afford landing facilities at this place for the steamers frequenting the Saguenay, the sum of \$4,000 was appropriated, at the session of parliament of 1898, for the construction of an isolated block.

The block is 50 feet long by 25 feet wide and 27 feet high; the outer end is a distance of 1,446 feet from the high water mark of spring tides.

In 1899-1900, two blocks, one 80 feet and the other 68 feet in length, were built from shore in view of connecting the outer block. These blocks are 25 feet wide and 20 feet high at the outer end. Expenditure, \$3,999.

In 1900-1, an addition of 250 feet long and 25 feet wide was built, at the cost of \$4,016.63.

During the year 1901-2, an extension to the shore wharf, 150 feet in length, 25 feet wide, was constructed at 25 feet south of the work commenced in 1898. They are placed from each other at a distance of 25 feet and are 21, 22, 23 feet in height respectively.

Expenditure, \$4,000.01.

During the year 1902-3, an extension to the shore wharf, 150 feet in length, 25 feet wide and 21 feet high, at the outer end, was built. Expenditure, \$3,994.71.

During the year 1903-4, five piers, located 25 feet apart, were built. The first one from the old work is 20 by 35 feet with a landing slip; the other four are 20 by 25 feet. A portion of the wharf built last year was completed with stringers and flooring; the span and the top of the first pier were also completed; the stringers are 10 by 12. The four other piers are ready to receive the corbels and stringers. Expenditure, \$4,082.35.

On January 4, 1905, a contract for the completion of the wharf was awarded. The work was commenced immediately, and 12 piers were sunk, 9 of 20 by 25, and 2 of 25 by 30. Expenditure, \$5,276.65.

During the year 1905-6, the work under contract was completed. Expenditure, \$12,313.85.

During the fiscal year 1906-7, certain repairs were done, planking and sheathing renewed. Expenditure, \$22.89.

ST. ANICET.

St. Anicet is a post village in Huntingdon county, ten and a half miles from White Station on the Grand Trunk Railway (Montreal and Champlain division) and 56 miles southwest of Montreal, on the south shore of Lake St. Francis.

This pier was built in 1862, at a cost of \$1,920, and stands 5 feet 3 inches above low water. It is 300 feet in length, the width of the 200 feet nearest to the shore or approach is 13 feet, and the other 100 feet, or outer block, 35 feet.

The shore abutment consists of a solid crib, 47 feet long, and the remaining 153 feet of the approach is supported on four cribs, 12 by 13 feet long, united by timber spans of stringers and planking. In 1889-90, some slight repairs were made amounting to \$48.67.

In 1890-1, the entire approach, 200 feet long, was rebuilt from the water line at a cost of \$635.10.

In 1892-3, small repairs were made, amounting to \$25.88.

In 1893-4, the outer block, 100 feet by 35, which is a solid cribwork, was rebuilt from the low water line, at a cost of \$1,500. A shed, for the accommodation of passengers and freight, was also built on the wharf the same year, at a cost of \$225.35.

In 1897-8, the sum of \$2,197.95 was expended for the addition of a wing or return, 60 feet long by 30 feet wide at the outer end and 40 feet wide at the inner end, on the

SESSIONAL PAPER No. 19

upstream side of the wharf, the object being to enable vessels to lie at the front of the wharf instead of along its sides, where it is very difficult to land during rough weather caused by westerly wind. This addition was built of close-faced cribwork, but was not completed at the end of the fiscal year.

During the fiscal year 1898-9, the sum of \$1,423.75 was expended to complete the construction of the above-mentioned addition and to make general repairs to the old wharf. The work was done by day labour.

During June and July last, the whole flooring of headblock and approach was renewed with 3-inch pine deals, the four piers of approach and abutment were rebuilt from low-water level, the timber spans renewed and the store-house enlarged and repaired.

Expenditure in 1906-7, \$931.85.

ST. ANDRÉ.

The village of St. André, or Andréville, is situated on the south shore of the St. Lawrence, in the county of Kamouraska, about fifteen miles west of Rivière du Loup and 100 miles below Quebec.

The place is distant five miles from the Intercolonial Railway, and the traffic is chiefly done by navigation; it is somewhat frequented as a summer resort.

Spring tides rise 19 feet; neaps, 12 feet.

The public wharf consists of an earthen embankment, 850 feet long, with a mean height of 7 feet, and nine piers connected by platforms of 30 foot spans.

During the year 1902-3, the earth approach to the wharf was repaired and greatly improved. In 1904, an addition to the wharf was built; it was 80 feet long, 26 feet wide on a height of 18 feet.

During the year 1905-6, a further extension of 100 feet in length was constructed, the width being 30 feet, and the height 20 feet. A slip, 45 feet long, was built near the inner end of the wharf. The planking and stringers were renewed on a length of 332 feet and a width of 24 feet; 664 feet of capping were also replaced.

In the course of the fiscal year ended March 31, 1907, the repairs to the planking begun the year before, were continued and completed; 1,182 feet of spruce, 10 inches square, and 15,139 feet, B.M. of spruce deals 3 inches.

A certain quantity of gravel was also put on the earth approach to the wharf and 500 feet long of capping were replaced.

The expenditure for the last fiscal year amounted to \$1,196.28.

STE. ANNE DES MONTS.

The Ste. Anne river flows into the St. Lawrence at the west end of the village of Ste. Anne des Monts, one of the oldest and most important establishments of the Gaspé peninsula, some 100 miles below the nearest railway station, Little Métis.

In the fiscal year 1904-5, timber was bought to the amount of \$1,570.86, towards improving the entrance to the river.

During the month of June 1906, additional material was purchased and preparations were made towards carrying out the proposed improvements.

In July and August, the work was delayed on account of the refusal of the parties who own the timber limits to allow the cutting of timber for the face work. The outside crib, 50 by 22 feet at top with a batter of 1 in 8, was built to coping, 5 feet of water, at low water. Three mattresses were laid, but the superstructure could not be built, on account of not having the timber for facing.

In the river, the eastern protection work had been built for a length of 200 feet, when a very heavy freshet swept 300 feet of the sand bar, westward of our protection work, which was in no way disturbed though not completed at the time. The freshet carried away over 350 logs that had just been prepared with the permission of the new owner of the timber limits. Up to the present, some 50 of those logs have been reco-

7-8 EDWARD VII., A. 1908

vered. Some temporary protection work had to be done last fall to protect the bank. east of the permanent work.

The total expenditure during last fiscal year amounted to \$4,999.76.

STE. ANNE DE SOREL.

Ste. Anne de Sorel, in the county of Richelieu, is situated at the head of Lake St. Peter, on the south shore of the St. Lawrence, two miles below the town of Sorel.

In 1890, the necessary materials, costing \$2,497.11, for the construction of an ice-breaker, 60 by 25 feet at bottom and 56 by 24 feet at top and standing 12 feet high in 7 feet of water, were bought. The structure was completed the year following, at a cost of \$1,696.25. It is situated opposite the parish church.

At the beginning of October, 1898, the above pier was connected with shore by a crib, 100 feet long, 18 feet wide at bottom and 14 feet wide at top, with ice-breaker all along, its height varying from 7 to 2 feet. Ten-inch square and round hemlock, six-inch sheathing on ice-breaker and three-inch pine flooring were used, and the crib entirely filled with stone. Completed November 3 following at a cost of \$1,596.87.

In March last, materials were bought, including stone and timber, to repair part of the sheathing, the flooring, capping, and to protect upstream side of wharf. On account of the high level of the water, work had to be postponed. Expenditure, \$2,590.55.

ST. ANNE DU SAGUENAY.

Ste. Anne du Saguenay, Chicoutimi county, is situated on the north shore of the Saguenay, seventy-two and a half miles above Tadousac, and opposite the town of Chicoutimi.

Spring tides rise 17 feet; neaps, 9 feet.

As early as 1878 the Dominion government was urged to construct a landing pier for the accommodation of the inhabitants of the district. The request was not, however, considered until 1888, when a portion of the timber for the proposed structure was purchased, at a cost of \$2,100.

In 1889, the pier was commenced from shore outward, and, at the close of the year 1888-9, a portion, 77 feet long and 30 feet wide, on its lower or eastern face, had been completed, at a cost of \$2,109.60. It was built of close-faced cribwork filled with stone ballast. In 1890, this shore block was extended 87 feet on a width of 27 feet, at a cost of \$2,045.50, and, in 1891, a further length of 50 feet of similar work was built, at an additional cost of \$2,498.96.

In 1892, a headblock, 30 feet long, 60 feet wide and 20 feet high, was built at a distance of 250 feet from the end of the work, completed the previous year, at a cost of \$2,262.11. In 1896, this block was raised 8½ feet and put on the same level as that of the work built out from shore, viz., 6 feet above ordinary high water spring tides.

With a view of completing the pier to shore, a sum of \$5,575.25 was expended in 1897 for the construction of two cribs, each 87½ feet long and 25 feet wide, placed 25 feet apart and 25 feet from both the head and shore blocks.

During the year 1898, the three 25 foot openings left in the work were spanned, the flooring was laid and the structure completed to shore, at a cost of \$746.70.

During the year 1899, the planking of the pier was renewed over a length of 250 feet, the sides of the cribs were sheathed on a length of 250 feet and fenders were placed at the angles. The work was done by day labour, at a cost of \$1,099.81.

During the year 1900, the outer block, for 110 feet, was sheathed with tamarack, at a cost of \$1,499.99.

During the year 1901, the sum of \$2,507.30 was expended in renewing the planking of the wharf over a length of 240 feet and a width of 25 feet. The upper side of the wharf was sheathed over a length of 110, with 6-inch tamarack, and a shed, 45 feet by 30 feet, was erected on the wharf.

SESSIONAL PAPER No. 19

During the year 1901-2, a crib, 40 feet wide and 27 feet high, was constructed at the eastern extremity of the wharf. It is fully sheathed with 5-inch tamarack. The flooring of the wharf was renewed on a space 200 feet long and 27 feet wide. Expenditure, \$3,102.07.

During the year 1902-3, a movable slip was built, a waiting room was commenced, the flooring of the wharf was renewed at different places. Expenditure, \$1,523.30.

During the year 1903-4, the shed was covered with sheet iron, the waiting room was completed, a freight shed was built and the flooring was repaired. Amount expended, \$1,101.80.

During the year 1904-5, a new pier 30 by 30 was constructed on the east side of the wharf, 22 feet from the headblock and close to the wharf; the headblock is connected with the pier by stringers supported on corbels; the space and the block are planked; the piers are sheathed, provided with fenders, and the whole is fully ballasted with stone.

The pier on the west side of the block, built in 1901, was repaired, levelled for 5 feet, replanked and new stringers were put on.

On the west side of the wharf a big boulder was blasted. Amount expended, \$2,421.75.

During the fiscal year ending June 30, 1906, a landing pontoon was built. Amount expended, \$2,498.69.

During the fiscal year 1906-7, the work done was the completion of the pontoon commenced in 1905-6. This pontoon is 60 by 20, built with 5 keelsons of 10 by 10; bottom and shipboard are of 4 inches, stringers 10 by 10, and decking 3 by 6. The pontoon is provided with chains, &c. Amount expended, \$981.30.

ST. CHARLES BORROMÉE.

St. Charles Borromée is a village situated on the north shore of La Grande Décharge of Lake St. John, in the county of Chicoutimi, twenty-one miles above Chicoutimi town.

During the year 1904-5, a certain quantity of timber was bought, in view of the construction of two landing piers. Amount expended, \$995.95.

During the year 1905-6, two landing piers, one on each side of the river, 100 feet in length by 40 feet wide, were commenced in round timber open-face cribwork and fully ballasted with stone.

A certain quantity of timber was bought in view of the completion of the two landing piers. Amount expended, \$3,993.35.

During the fiscal year 1906-7, the work done was the continuation of the two landing piers commenced in 1905-6; there are three slopes for the ferry.

The north pier is completed, except the sheathing; the south pier is built for a height of 15 feet, and both are fully ballasted. Amount expended, \$3,004.60.

ST. EDOUARD DES MÉCHINS.

The village of St. Edouard des Méchins, in the county of Rimouski, is situated on the south shore of the St. Lawrence, thirty-five miles below Matane. It has a population of 600, consisting chiefly of fishermen and lumbermen. Some farming is also done.

To provide more facilities of landing to the inhabitants of this part of the coast of the St. Lawrence, and also to supply the total want of shelter for their craft, the department decided to build a wharf at that place.

On October 30, 1906, a contract was entered into for the construction of the proposed work, the contract price being \$26,900.

The new wharf will consist of a stone approach, 20 feet long, and a cribwork 583 feet in length, having a width of 20 feet for a distance of 303 feet from the shore,

7-8 EDWARD VII., A. 1908

and 30 feet for the remainder or a distance of 250 feet; the cribwork which is close-faced, to have a batter of 1 in 12 on both sides.

The depth of water available at the outer end is 18 feet at low spring tides.

Spring tides rise 13 feet; neaps, 7 feet.

ST. FÉLICIEN.

St. Félicien, a post village in Chicoutimi county, is on the Ashuapmouchouan river, fifteen miles from Roberval, on the Quebec and Lake St. John Railway.

During the year 1895-6, a wharf was built to accommodate the local trade. It is 70 feet in length, 26 feet in width and 22 feet high at the outer end, at which vessels drawing 8 feet can lie at low water. A shed, 20 feet square, was erected on the wharf at its outer end.

During the year 1899, an addition 90 feet long, parallel with the channel, and 40 feet wide, was constructed at right angles to the wharf at its outer end.

During the year 1900, the sheathing, which had been damaged by ice, was renewed on a length of 30 feet and 10 feet high, at a cost of \$100.

During the year 1903-4, fifteen boulders obstructing the channel were removed. Amount expended, \$302.94.

During the year 1904-5, certain repairs were done to the wharf, the sheathing was renewed, stringers replaced, planking completed and the shed repaired and painted. Amount expended, \$629.11.

During the winter of the same year a certain quantity of boulders obstructing the channel were removed, at a cost of \$318.10.

ST. FRANÇOIS, I.O.

St. François, I.O., is situated at the eastern end of the island of Orleans, twenty-five miles below Quebec.

During the last fiscal year a contract was entered into with Mr. J. A. Lemay, for the construction of an approach to the isolated pier, built in 1903. This approach consists of a crib 250 feet long by 30 feet wide. Up to March 31, 1907, 78 per cent of the work had been constructed.

The expenditure for the fiscal year amounted to \$16,031.10.

ST. FULGENCE.

St. Fulgence (Anse aux Foins) is a village in Chicoutimi county, on the north shore of River Saguenay, ten miles below the town of Chicoutimi.

The construction of a wharf was commenced in 1903-4, starting from shore by an approach of 75 feet in length, 22 feet in width and 10 feet in height, and a pier at 25 feet from the approach 25 by 22, and 14 feet in height.

This work is built of round logs, open face, to be sheathed; the whole is fully ballasted. Expenditure, \$998.37.

During the year 1904-5, the approach, the pier and other piers of 25 by 22, placed 25 feet apart, were completed. Fenders of 8 by 10 were put on; the stringers and the corbels are of 12 by 12, the planking of 3-inch spruce deals, thus giving a whole length of 275 feet of wharf completed, except the sheathing. Another pier was started and built for 14 feet in height. Amount expended, \$4,993.28.

During the year 1905-6 three piers of 25 by 22 were built of an average height of 16 feet; the last pier, 30 by 30 feet was started and built for a height of 10 feet. The superstructure is completed up to the last pier, with corbels, stringers of 12 by 12 and planking of 3 inches. Amount expended, \$5,017.18.

During the fiscal year 1906-7, the wharf, commenced in 1903-4, was continued to a length of 503 feet by 20 feet wide, 45 feet at outer end and 24 feet in height, built on piers, with a space of 25 feet between each pier. The superstructure is on

SESSIONAL PAPER No. 19

corbels and stringers of 12 by 12, with a flooring of 3-inch spruce deals. The piers are provided with fenders and fully ballasted with stone; two spaces near shore were partly filled with brushes and stones, to break the effect of ice. A certain quantity of timber was bought to complete the sheathing of the wharf. Amount expended, \$3,000.25.

ST. GÉDÉON.

St. Gédéon parish is situated on the south shore of Lake St. John, thirty-three miles west of Roberval.

This wharf, constructed on the bank of the River 'Kouchpigan,' commonly called 'Belle Rivière,' consists of a block, 60 feet in length, 30 in width and 22 in height, built principally of white pine. It is connected with the shore by pile work, 70 feet in length; the whole length is planked over, the approach built of stone, gravel, &c.; a shed, 20 by 25 feet, was erected for freight shed and waiting room. Total cost, \$2,998.

ST. GÉDÉON ISLAND.

St. Gédéon island, in the parish of St. Gédéon, is situated on the south shore of Lake St. John, thirty-nine miles west of Roberval.

During the year 1903-4, a certain quantity of timber was purchased in view of the construction of a wharf at that place. Amount expended, \$1,982.19.

On July 13, 1904, a contract was awarded, in the sum of \$8,890, for the construction of a wharf in the bay of St. Gédéon island.

The work done is the construction of seven piers of 20 by 20 at 25 feet apart; the headblock is 40 by 30 and 25 feet in height, at outer end, with two slips and an abutment of 20 feet. The whole is completed. Amount expended, \$7,500.

During the winter of the year 1905-6, a certain quantity of boulders around the wharf were removed at the cost of \$177.28.

In the spring, an approach and a freight shed were built at the cost of \$736.13.

During the fiscal year 1906-7, the amount of \$209.92 was expended in removing boulders.

ST. IRÉNÉE.

St. Irénée is a village situated in the county of Charlevoix, on the north shore of the St. Lawrence, seventy-eight miles below Quebec and some six miles west of Murray Bay.

During the last fiscal year, the flooring of the wharf was completely renewed and a railing was placed on the whole length of the eastern side of the wharf. Repairs were also made to the freight shed.

The expenditure for the fiscal year 1906-7 amounts to \$1,839.68.

ST. JEAN DES CHAILLONS.

St. Jean des Chaillons, a post village and parish in Lotbinière county, is situated on the River St. Lawrence, fifty-seven miles above Quebec. Population of village, 1,000.

In 1906-7, the work under contract was completed. During the last fiscal year, the inshore extension of landing pier, to connect with cliff and proposed roadway to public highway, was built by day labour.

The extension, measuring 27 feet in length by 27 feet wide on top and 6 feet in height, with slope of 1 foot in 1 foot, on west side, fills up the gap, which would have been left between the shore and the 250 feet of wharf built by contract.

Besides this extension, there was also built a side roadway, at high water, at foot of cliff, measuring 100 feet in length, 27 feet in width and average height of 5 feet 6 inches of close-faced cribwork, planked with 5-inch tamarack planks, sheathed on

7-8 EDWARD VII., A. 1908

outer face with 4-inch tamarack; the sheathing of extension slope is of 8-inch tamarack and flooring of 5-inch; the whole extension and side roadway are fully ballasted with stone to top.

Total expenditure during 1906-7, \$14,387.70.

ST. LAURENT, I. O.

The village of St. Laurent, in the county of Montmorency, is situated on the south side of the island of Orleans, ten miles below Quebec.

The western slip of the wharf was completely rebuilt and one-quarter of the flooring of the wharf renewed. The freight shed and waiting room were painted and minor repairs made to the movable slip and floats.

The expenditure for the fiscal year 1906-7 amounts to \$929.10.

ST. PAUL DE L'ÎLE AUX NOIX.

St. Paul de l'Île aux Noix, formerly St. Valentin, is on the west shore of the Richelieu river, in St. John's county, near the southern boundary, some four miles north of Lacolle or twelve miles south of St. John's.

As this place had no wharf accommodation, the large quantity of hay, which is annually exported to the United States ports of Lake Champlain, and the farm produces shipped to St. John's, had to be conveyed in scows to barges anchored in the river channel, thereby causing double handling and correspondent expenses, a sum of \$5,500 was appropriated in 1897 towards the construction of a landing pier, at the foot of the government road leading from the highway to the l'Île aux Noix ferry. On March 17, 1897, a contract was entered into for the construction of:—

(a) A stone and earth embankment, 135 feet long, 25 feet wide with sides and outer end sloped 1 in 1;

(b) A trestle approach, 156 feet long and 20 feet wide;

(c) A cribwork headblock, 60 feet long and 35 feet wide, with outer face standing $1\frac{1}{2}$ feet high in $9\frac{1}{2}$ feet of water, at low level.

The construction was started immediately and the structure completed in 1898, at a total cost of \$6,152.43. The government road was raised above the level of the spring freshets and properly fenced.

Minor repairs in 1900-1 cost \$66.50.

During May and June, 1904, corbels and stringers, 6 by 12 inches, were placed between all the existing ones which were 6 feet 4 inches apart, three-quarters of the flooring was renewed and a small storehouse, 16 by 20 feet, erected. Work done by day labour, at a cost of \$1,158.15.

During August last, a guard-railing was placed on both sides of trestle approach, and some thirty planks of flooring renewed.

Expenditure in 1906-7, \$6,642.50.

ST. SIMÉON.

St. Siméon is situated on the north shore of the St. Lawrence, in the county of Charlevoix, 107 miles below Quebec.

During the last fiscal year, a movable slip, with complete apparatus, was built into the wharf. A freight shed and waiting room and a lantern tower were also built. During the season of navigation, the northeast corner of the wharf was very badly injured by a steamer in landing and immediate repairs had to be made.

The expenditure during the fiscal year 1906-7 amounts to \$2,242.39.

ST. TIMOTHÉE.

St. Timothée is a post village in Beauharnois county, on the south shore of the St. Lawrence, at the head of the Chute aux Bouleaux rapids and on the Grand Trunk railway, five and a half miles from Valleyfield.

SESSIONAL PAPER No. 19

During fiscal year 1882-3, a landing pier was constructed, consisting of a block 100 feet long by 24 feet with 7 feet of water, along outer face, and a stone, earth and gravel roadway 237 feet long and 20 feet wide at top. Expenditure, \$1,841.46.

On account of some damage by ice during the spring of 1884, repairs cost \$187.21.

During the summer of 1889, the headblock was enlarged outward 44 by 100 feet, by the construction of three small cribs, each 25 by 20 feet, some 20 feet apart, with outside face 44 feet from face of old block, all intervening spaces being spanned with timber stringers. Cost, \$3,773.15.

During fiscal year 1899-1900, a number of stringers and the flooring were renewed, the storehouse and waiting room were repaired and painted, a cattle yard 60 by 15 feet, at the inner angle of the wharf alongside the roadway was made with stone and earth and properly fenced, and the roadway was improved. Expenditure, \$801.45.

In February last, the three cribs constructed in 1889 were razed from low water level and rebuilt 3 feet; the span between these cribs and the old block entirely filled in with stone, some 140 toises, and minor repairs made at a cost of \$1,589.39.

ST. VALIER.

The village of St. Valier, in the county of Bellechasse, is on the south shore of the St. Lawrence, twenty-one miles below Quebec.

To help the trade and provide some facilities of landing for the shipment of farm produce, in permitting the coasting steamer *Champion* to call there, the necessary amount was appropriated by parliament, for the construction of a landing pier at St. Valier.

On February 6, 1907, articles of agreement were entered into for the building of the proposed work; it will consist of a stone approach 27.5 feet, together with a timber cribwork filled with stone ballast, of 272.5 feet in length, with a batter of 1 in 12, by a width of 22 feet and a height of 21 feet at the outer end.

Expenditure in 1906-7, \$248.79.

ST. ZOTIQUE.

St. Zotique is a post village in Soulanges county, on the north shore of the St. Lawrence, two and a half miles above Coteau Landing.

The mooring pier at Coteau Landing having been found to be too near the head of the Coteau rapids, for the safety of rafts and steamers requiring to tie up, a mooring pier was begun at St. Zotique in 1881-82, completed in 1884. It consisted of a close-faced crib headblock, 100 feet long by 24 feet wide, sunk in 9 feet of water, and of a 12 foot approach, composed of 34 close-faced cribs measuring 8 by 12 feet, placed at intervals of 20 feet and spanned with 12 by 12 stringers, supporting flooring, making total length of pier 1,150 feet.

Expenditure in 1881-2 was \$1,070.75.

Expenditure in 1882-3 was \$3,479.74.

Expenditure in 1883-84 was \$4,708.18.

In 1885-6, the headblock was lengthened to 132 feet 4 inches, the approach widened to 24 feet, the ice-breaker rebuilt and a guard-railing placed on both sides at a cost of \$1,200.73.

In 1893-4 and 1894-5, sums of \$2,490.75 and \$1,599.85 respectively, were expended in reconstructing part of the work and in general repairs.

During May and June, 1902, the ice-breaker was resheathed with 8-inch rock elm part of headblock and of approach refloored, several stringers renewed, the south-eastern corner of the headblock sheathed with rock elm covered with steel boiler plate, and general repairs made to storehouse and guard-railing at a cost of \$1,099.61.

During August, 1902, minor repairs cost \$203.12.

In June 1904, several stringers of approach and part of the flooring were renewed at a cost of \$509.01.

7-8 EDWARD VII., A. 1908

During March last, all the timber stringers between cribs were renewed, temporary repairs were made to the cribs and 3-inch pine deals were bought for the greater part of the flooring.

Expenditure for last fiscal year, \$1,752.53.

SAULT AU MOUTON.

Sault au Mouton is situated on the north shore of the St. Lawrence, three miles from Mille Vaches village.

Sault au Mouton river makes a channel which is navigable at high water and is very dangerous on account of boulders.

During the fiscal year 1906-7, some of the boulders were removed. Expenditure, \$475.03.

SAULT MONTMORENCY.

Sault Montmorency is a small town situated eight miles below Quebec, on the north shore of the River St. Lawrence.

The cribwork revetment wall, built by this department in 1904-5, was continued for a length of 300 feet. This construction consists of an open-faced timber crib filled with stone ballast. The height of the crib is 9 feet and its width 12 feet.

The expenditure for the fiscal year 1906-7 amounts to \$3,270.89.

SOREL ICE PIERS.

Sorel is an incorporated city, the shiretown of Richelieu county, situated on the right bank of the River Richelieu, at its mouth in Lake St. Peter, some forty-five miles northeast of Montreal.

With a view to protecting the properties on both sides of the river, near its outlet at Sorel, and the boats which winter here against disastrous ice shoves from the St. Lawrence and the run of ice in the Richelieu during freshets, five ice-breaking piers were built, in the bed of this stream, between 1888 and 1892, two of which are on the west side of the last named river near its confluence with the St. Lawrence.

All these piers have proven of good service, preventing the destruction of much valuable property.

The two piers at the mouth of the Richelieu measure 30 feet by 24 feet and are some 20 feet high; the top being about level with extreme high water on the St. Lawrence. They are all calculated to resist a great pressure from the St. Lawrence, but were, at the time of their construction, insufficiently protected from the run of the Richelieu ice, and for this reason were considerably damaged chiefly in the spring of 1896.

During the fiscal year 1896-7, a sum of \$441.53 was applied in making good the damage done and strengthening the works by means of sheathing, bracing, corner plates, &c.

During 1898-9, the three ice-breakers above the South Shore Railway bridge were repaired. The top courses of timber, which were found damaged, were removed and renewed, and the sheathing repaired. Cost, \$555.93.

Since, large sums were expended in construction and general repairs: In 1900-1, \$811.66; in 1901-2, \$1,990.83; in 1903-4, \$2,250.59.

From October to the end of March, 1904-5, the two ice-breakers near St. Joseph de Sorel were razed to low water and rebuilt up to 15 feet above E.L.W.L., and entirely filled with stone. Cost, \$6,016.89.

The ice shoves of April following badly twisted and moved aside some 4 feet of the superstructure of the outer one of these piers.

In October and November last, the old structure was purposely destroyed by fire and a stronger pier substituted. The latter is formed of handlaid stone with a 1½-foot concrete covering mixed 1-3-5 and reinforced with horizontal and vertical 1½-inch

SESSIONAL PAPER No. 19

round iron bars. As it now stands, the ice-breaker is 29 by 24 feet at the base, 17 feet high, with two slanting faces, starting 2 feet from bottom and inclined $1\frac{1}{2}$ in 1 on the Richelieu and St. Lawrence upstream sides, the two other faces being inclined 1 in 12. The dimensions of the top are 8 feet square.

THREE RIVERS (QUAI BUREAU).

More deep water wharf accommodation being required in the harbour of Three Rivers, an agreement was entered into with Mr. Randolph Macdonald, contractor, for the construction of 1,968 lineal feet of deep water wharf, on the north shore of the St. Lawrence, and the western section of the city of Three Rivers, about eighty-two miles below Montreal.

By the agreement above mentioned, dated December 7, 1903, the work contemplated should have been finished before November, 1905, but owing to high water prevailing during the summer of 1905, the work could not be carried on with all the celerity desired, but in 1906 the water remained low enough all summer to allow the contractor to complete the concrete work during the year of 1906.

The work done and materials delivered on contract (\$330,730) from the beginning of the work to March 31, 1907, is about 97.27 per cent.	\$321,732 60
Amount to be deducted for work done up to June 30, 1906, being about 63.07 per cent.	\$208,473 69

Leaving a balance of	\$113,258 91
--------------------------------	--------------

The value of the work performed during the fiscal year of 1906-1907 represent about 34.20 per cent of the work to be done by contract.

Extra work: Material supplied to fill the gap between the hundred foot embankment and the loop line, the property of the Canadian Pacific Railway, about 58.76 per cent done.	\$ 10,193 40
---	--------------

Total expenditure in 1906-7.	\$ 57,897 34
--------------------------------------	--------------

TICOUABE.

Ticouabe or St. Méthode, a post village in Chicoutimi county, is situated at the outlet of the river of the same name, twenty-one miles from Roberval.

A small landing was built at this place, to accommodate the local trade and to help its development. The wharf consists of a solid block of close-faced cribwork, 30 by 30 feet, built a small distance from the shore and connected to it by a platform which is supported on trestles and is 103 feet long and 25 feet wide. A combined freight and shelter shed, 25 by 30 feet, was also built. Amount expended, \$1,611.79.

In the spring of the year 1902-3 the wharf was badly damaged by ice. During the fiscal year 1903-4, the trestles were renewed and corbels were put on to support the floor-stringers. The outer pier of the wharf was levelled, and, to prevent any sinkage and give it more strength, the head was surrounded with pile-work. Amount expended, \$792.08.

TROIS PISTOLES.

TroisPistoles, in the county of Temiscouata, is an important village on the Intercolonial Railway, twenty-five miles below River du Loup. The land in the vicinity is fertile, and the place is flourishing. It is somewhat frequented as a summer resort.

Along the River Trois Pistoles stand large saw and pulp mills.

On the west side of the entrance of the harbour, is the public wharf.

7-8 EDWARD VII., A. 1908

The harbour being much exposed to northeasterly winds, a breakwater was built across the entrance to provide the necessary shelter. This work, which is 350 feet in length, was done during the years 1904 and 1905.

During the last fiscal year, a platform, spanning an opening left in the wharf, being worn out and dangerous, was replaced with timber cribwork filled with stone. This opening whose dimensions were 50 feet long, 20 feet wide by a height of 19 feet, caused much trouble to vessels standing near the wharf.

The flooring of the wharf has also been renewed upon a surface of 3,500 square feet, with most of the stringers.

Fenders were placed along the southern face of the breakwater, at every 10 feet. These works were performed during the months of July and August, at cost of \$2,599.84.

Spring tides rise 18 feet; neaps, 10 feet.

VERDUN.

Verdun is an incorporated village on the island of Montreal, in Jacques Cartier county, two miles south of Montreal.

In order to accommodate the farmers of the south shore of the St. Lawrence, near Cote St. Catherine, opposite, a wharf was commenced by day labour in October, 1899, and completed in June following, at a cost of \$2,353.23. It consists of a crib head-block, 82 feet long, 20 feet wide, 6 feet high above low water level, with icebreaker at upstream end; and a close-faced crib approach, 75 feet long and 18 feet wide. The outer face of block stands in 6 feet of water at low level.

Minor repairs in 1900-1 cost \$107.66.

During June, July and August, 1906, extensive repairs were made to the wharf which had been badly damaged by ice. The structure was razed to one foot above low water and rebuilt 2 feet, the whole well filled with stone, gravel and sand properly hardened on top. The roadway from public road to wharf was also improved by the construction of a timber embankment, 160 feet long and 2 feet high, so as to prevent landslides.

Total expenditure in 1906-7, \$1,224.98.

VILLE MARIE (BAIE DES PÈRES).

Ville Marie, Pontiac county, is an important agricultural centre located on Baie des Pères. It is a point of call for boats plying on Lake Timiskaming. There being no railroad connections, landing facilities are indispensable.

In 1887, the Dominion government purchased from the Lake Timiskaming Colonization Railway Company their wharf, for the sum of \$3,000 (*See O. C. 83,568; 20-12-87*). The wharf then consisted of an approach some 400 feet in length, 16 feet wide, leading to a landing head 26 by 37 feet in surface dimensions, the frontage of which is 26 feet. The whole structure being built of small open-face cribwork piers supporting the floor system, 15 feet above L.W.L.

In 1892, \$68.12 was spent on repairs; the work being thoroughly repaired in 1895 at a cost of \$945.63; and in 1896, \$25.63 was expended on the wharf.

At its session of 1903, parliament appropriated \$2,500 towards required repairs to the upper structure. No repairs were made that year because local interests demanded that the amount available be applied towards the construction of a wharf on a different site which, upon examination, proved to be too costly.

During the fiscal year 1904-5, some urgent repairs were made at a cost of \$361.33; but on account of the interference with the heavy traffic, the work was only of a temporary nature. The sum of \$160.43 was paid to the Lumsden Line steamers, for repairs between 1896 and 1904.

The work of reconstruction started with the close of navigation in 1905, and was practically completed in August, 1906.

SESSIONAL PAPER No. 19

The unfinished work of sheathing crib corners was done in March, 1907.

The wharf as reconstructed, at a cost of \$3,960.42 is on cribwork piers and consists of an approach, 350 feet long, 18 feet wide, with substantial handrailing, leading to a landing head of 40 feet frontage with slip and 100 feet deep, but of variable width, having been built out from on either side, from time to time, by the navigation interests. The total frontage is now nearly 200 feet.

Expenditure, including dredging, during fiscal year 1906-7, \$3,243.87.

PROVINCE OF ONTARIO.

AMHERSTBURG.

Dredging.

The town of Amherstburg, in the county of Essex, in the township of Malden, is situated on the east bank of the Detroit river, about five miles from Lake Erie and fifteen miles south of Windsor, to which place it is connected by electric car service. The Michigan Central Railway also runs into Amherstburg. Population about 2,500. It is one of the oldest settlements in Ontario.

At the last session of parliament, the sum of \$10,500 was appropriated for the purchase of some water lots, and for the completion of dredging in the middle ground, in the Detroit river, opposite the town, to a depth of 21 feet below low water level, thus providing safe entrance to town docks for deep draught vessels from the main channel of the river.

An agreement was entered into with the Weddell Dredging Company, of Trenton, for the performance of this work, at a price of 98 cents per cubic yard, place measurement.

At the beginning of the fiscal year this work was in progress; it was completed on July 7, 1906.

The work performed consisted in the sweeping and cleaning up of boulders.

The total expenditure on dredging during the fiscal year 1906-7, including inspection, amounted to \$9,319.83.

BAYFIELD.

Bayfield is a village in the county of Huron, situated on the easterly shore of Lake Huron, at the mouth of Bayfield river, twelve miles south of the town of Goderich.

At the last session of parliament the sum of \$800 was appropriated for repairs to piers and for dredging, and on July 17, last, authority was given to proceed with the work, by days' labour.

Repairs to piers were commenced on August 3, and completed on September 26, 1906, when grant was expended.

Work performed consisted in the repairing of outer end of south pier and filling same with stone; levelling up inner end of south pier; raising and levelling of 120 feet of centre of this pier, which had settled badly towards the river, and redecking of same. Some general repairs in the way of renewal of planking and gravel filling were performed on north pier.

The total expenditure on these works, between July 1, 1906, and March 1, 1907, is \$795.61.

BELLE RIVER.

Dredging.

Belle River is a village situated on the south shore of Lake St. Clair, and on the London and Windsor Division of the Grand Trunk Railway, ninety-three miles from

7-8 EDWARD VII., A. 1908

London and seventeen miles from Windsor. It is a French settlement of about 1,000 inhabitants.

At the last session of parliament the sum of \$3,500 was appropriated for dredging and renewal of close pile protection work.

In accordance with instructions received, an agreement was subsequently made with the Windsor Dredging Company, Limited, of Windsor, for the dredging of a channel at entrance to harbour, to a depth of 9 feet below low water level.

Operations were commenced on September 26, and continued until November 30, 1906, when dredging ceased for the winter.

Owing to the exposed position of this work, considerable filling in occurred, and the entire channel required has not yet been completed.

In the performance of the above work some 9,849 cubic yards of clay were excavated.

Total expenditure during last fiscal year, \$2,556.50.

BLANCHE RIVER.

The Blanche empties into Lake Timiskaming, west of the Quebec boundary. It is navigable to Tomstown, twenty-six miles from its mouth. An important traffic has developed in this river. On account of land slides, the bed of the river is much obstructed by snags. A snag boat for removing these was built in 1905, operating in an experimental way for six weeks in the fall of that year. Two scows and a house boat were since added. Operations were resumed on June 25, and discontinued on November 1, 1906.

During the season of 1906, the whole river was swept once, while the worst parts were gone over a second time at low water. Working expenses, including rent of tug tender, were roughly \$1,300 per month. The plant has cost about \$5,000. 2,350 snags were removed, at a total cost of \$2.30 per snag, which varies from a 4-ton stump and trunk, to a sunken saw-log, small limbs and brush not counted. The spoil of the snag boat is unloaded by team and derrick on one of the settlers farms, there to be burned, or otherwise disposed of at no further cost to the department.

The work performed during the past season has permitted navigation at extreme low water level, when it was impossible to do so the previous year with the river level one foot higher. It is expected that the main work will be completed during the coming season, including the making of a channel through gravel bars at the head of navigation.

(For further particulars, see report for fiscal year 1905-6.)

Expenditure during fiscal year 1906-7, \$5,574.98.

BRACEBRIDGE.

Bracebridge is a town situated on the north branch of the Muskoka river, district of Muskoka, 125 miles by rail north of Toronto.

On July 25 last, authority was given to expend the sum of \$350 for the completion of the road approach to the new government wharf.

The work consisted of the construction of a roadway, 650 feet long by 18 feet wide, composed of stone and gravel. The greatest grade of the roadway is 10.6 per cent. A splendid roadway has been completed with iron railing on the sides where required.

Total expenditure for the fiscal year 1906-7, \$427.40.

BRONTE.

Bronte is a village in the county of Halton, on the north shore of Lake Ontario, twenty-seven miles southwest from Toronto.

At the last session of parliament, the sum of \$2,200 was appropriated for harbour improvements, and on July 17, last, authority was given to proceed with the work by day labour.

SESSIONAL PAPER No. 19

Work was commenced on September 15, but is not yet completed, as a berth is required to be dredged before the cribs can be sunk in position.

The work consists in the framing of cribwork protection, 40 feet by 20 feet, to be placed at westerly end of northerly pier, in the proposed turning basin, to prevent the banks from being inundated during the season of freshets, on Twelve Mile creek; about 100 feet of close piling has been constructed on the southerly side of harbour, to protect the bank from erosion.

Total expenditure for fiscal year 1906-7, \$2,199.

BURLINGTON CHANNEL.

Burlington channel, in the county of Wentworth, is simply a cut through a piece of low land which partially separates Lake Ontario from a large sheet of water called Burlington bay, thereby enabling vessels to reach the wharfs at the city of Hamilton. Over this cut the department has erected a swing bridge.

At the last session of parliament, the sum of \$500 was appropriated for the construction of a driveway to the south pier, to replace the foot bridge, and on October 5 last, authority was given to proceed with the work.

The work consists in the construction of a driveway, 235 feet long by 50 feet wide, along the south face of the south pier, composed of close cribwork along the bay side, filled with sand and gravel, and connecting with roadway leading from the beach to Hamilton.

The swing bridge staff were employed from July 1 to December 19 last, when lights were put out and navigation closed for the season, resuming work on March 21.

Expenditure for fiscal year 1906-7 : Driveway, &c., \$5,241.59 ; maintenance of bridge and wages of staff, \$1,201.77.

COBOURG.

Cobourg is a large town on the north shore of Lake Ontario, in the county of Northumberland, on the main line of the Grand Trunk Railway, sixty-five miles east of Toronto.

At the last session of parliament, the sum of \$5,000 was appropriated for repairs to piers, and on July 17 last, authority was given to proceed with the work by day labour.

Work was commenced on July 1 and carried on until October 31, when it was suspended for the season.

The work consists in general repairs, such as redecking where necessary, and the substitution of sound timbers for the decayed parts.

Total expenditure for the fiscal year 1906-7, \$1,960.94.

COLBORNE.

Colborne is situated on the north shore of Lake Ontario, about fourteen miles east of Cobourg; population, 1,000.

At the last session of parliament, the sum of \$5,000 was appropriated for the construction of a wharf at this place.

Plans and specifications for the work have been prepared and forwarded to the department.

COLCHESTER.

Colchester is a village situated on the north shore of Lake Erie, in the county of Essex, about four miles south of Harrow, and about fourteen miles from the Detroit river. Harrow is the nearest point with railway connection. Population about 200.

7-8 EDWARD VII., A. 1908

During the last session of parliament the sum of \$2,000 was appropriated for the completion of the wharf at this point, and on July 7, 1906, authority was given to proceed with the work by day labour.

Operations were resumed on July 9, and continued until November 30, when work closed down for the winter.

The work performed during that period consisted of the construction of 34 feet of close-faced cribwork substructure, 18 feet wide, filled with stone ballast; also the substructure of an 'L,' 12 feet by 28 feet, at outer end of work; and 71 feet of superstructure of concrete side walls with stone and gravel filling in rear.

The stone approach to this wharf, 178 feet long, was raised about 1 foot throughout its entire length with stone and gravel.

Total expenditure during 1906-7, \$1,596.68.

COLLINGWOOD.

Collingwood is situated on the south shore of Georgian bay, township of Nottawasaga, county of Simcoe, ninety-four miles by rail from Toronto. It is the terminus of the Northern and Hamilton and Northwestern Railway; both lines are now owned and operated by the Grand Trunk Railway Company. There is an extensive trade in shipbuilding, grain and lumber, and it is the starting point for steamers for Owen Sound, Sault Ste. Marie, Parry Sound, &c. Population, 5,000.

As constructed at present, the harbour is large and commodious, being protected on the north and east sides by extensive breakwaters.

On August 25, 1905, a contract was awarded for the sum of \$29,900 to construct a wharf 411 feet long by 40 feet wide.

Work was commenced on December 26, 1905, and completed on October 22, 1906. The wharf is composed of cribwork substructure with concrete superstructure.

On May 10 last, authority was given to place Mr. C. S. Boone's dredge at work to remove 14,000 cubic yards in situ of rock from the north side of the channel, in order to increase the area of the turning basin. Dredging was continued on July 1 and completed November 3. The dredge removed 20,571 cubic yards, scow measurement.

Total expenditure for fiscal year 1906-7, \$123,073.88.

CUMBERLAND.

Cumberland village, in the county of Russell, is situated twenty miles below Ottawa and two miles south of Buckingham Junction, on the Canadian Pacific Railway. Besides the regular ferry service, the wharf provides for considerable traffic for passenger and freight boats plying on the Ottawa river.

In November, 1904, the dredge *T.F.M.* (leased) prepared a berth for the foundation of a wharf, by removing blasted rock, at a cost of \$320. The wharf was built by contract the following winter, at a cost of \$6,649.85. In June, 1905, two slips were cut and angle irons were placed to protect inner corners of wharf, at a cost of \$74.68. In November and December of the same year, a freight shed was built at a cost of \$534.12, of which \$347.10 was expended before June 30 in procuring all required materials; four batter fenders costing \$106.94 were added, and the remnants of an old pier and obstructing boulders were removed by one of the departmental dredges, at a cost of some \$200.

At its session of 1906, parliament granted the sum of \$1,100 for further improvements to this structure, namely, raising decks and approaches about 2 feet and sheathing the upper end and front of cribwork, to consolidate the block against ice shoves, to which it was exposed on account of the destruction in the previous year of the old pier immediately above. These improvements were effected in December and January, at a cost of \$1,186.76.

SESSIONAL PAPER No. 19

The wharf, as improved, extends 108 feet from the shore with 90 feet frontage, carrying 8 feet at low water. The head block, 30 feet wide, has landings to correspond with the wide range of river level, and is built of close-face cribwork on rock bottom. The exposed faces are sheathed with 9-inch tamarack. The approaches are 18 feet in width, built of dry masonry walls, earth filled, topped with road metal at elevations of 5.75 and 15.75 feet above mean low water level. A two-story freight shed, 18 by 18 feet, with shelter roof, constructed in rear of headblock, between two low level approaches.

Expenditure during fiscal year 1906-7, \$1,186.76.

GODERICH.

Goderich is a town situated on the east shore of Lake Huron, in the county of Huron, and at the mouth of Maitland river, about sixty-eight miles from Sarnia, and sixty-three miles from London. It is the terminus of the Buffalo and Goderich branch of the Grand Trunk Railway, and of the Guelph and Goderich branch of the Canadian Pacific Railway. Population is about 5,500. It is the county town and possesses many industries. Located on the harbour front, is one of the largest flour mills in Canada, the output being 1,200 barrels a day, and which concern brings in, by boat from Fort William, about two million bushels of grain annually for use at this port.

A new elevator was completed last fall, built of reinforced concrete, and with a capacity of one-half million bushels.

A new station and terminal yards are now being constructed by the Canadian Pacific Railway at this point.

The surrounding country is rich in farming products. It is also a favourite summer resort; it is a port of call for three lines of steamers, while the boats carrying grain to the elevator and mill are of the deep draught type.

At the last session of parliament, the sum of \$50,000 was appropriated for harbour improvements.

On July 23 last, authority was given to expend the sum of \$16,300 for the cleaning and enlarging of a basin in the inner harbour to a depth of 19 feet below L.W.L.; also for additional dredging required in channel between piers and at outer entrance to same.

Dredging was commenced on July 25 and continued until November 15, during which period some 35,107 cubic yards of clay, sand and mud, and 1,055 cubic yards of rock were excavated.

Between July 2 and 19, inclusively, days' labour was employed in removing of sunken logs in inner harbour, which were proving a menace to navigation.

The improvements to the basin in the inner harbour has already proved of great service to the large grain boats unloading in this harbour; a boat, 300 feet long, and drawing 18 feet 6 inches of water, is now able to turn conveniently in this basin.

On August 2 last, authority was given to expend the sum of \$750 for the renewal of a portion of the river breakwater pier, which was destroyed by fire on July 10 previous, and subsequently an additional \$600 was authorized for general repairs to piers and the removal of concrete blocks from north pier, work to be done by day labour.

Work was commenced on August 20 and carried on intermittently until November 30 last, and consisted in the renewal of the larger portion of about 90 feet of superstructure of inner end of breakwater pier; stone filling and general repairs to the decking of north pier, and renewing of planking of south pier.

On August 3 last, authority was received to enter into an agreement with the London Electrical Construction Company, Ltd., of London, for the supplying and laying of necessary rubber covered wiring and cable from the power house of the municipal lighting plant out to the breakwater now partly constructed, for the purpose of lighting same. The lamps are to be supplied and all necessary wiring and connection to be made by the Electrical Construction Company. The three lamp posts were constructed by the department, being fastened securely to the cross-ties on substructure.

7-8 EDWARD VII., A. 1908

The above work was completed, with the exception of testing, when the big storm of October 27 and 28 last arose, doing considerable damage to the substructure of the breakwater, carrying away the cross timbers to which lamps were fastened and portion of the cable strung along breakwater for lighting purposes.

It was found impossible to repair the damage done last fall, consequently the work was suspended until spring.

The town council of Goderich have undertaken to supply the necessary current for the lighting of these lamps, as long as such cable and lamps are maintained by the department.

No work has been performed on the construction of breakwater since its partial destruction by the big storm of October 21, 1905.

A settlement was made with the contractors, Messrs. Battle and Conlon, for the work performed to the date of the storm just mentioned, and material on ground taken off their hands by the department. Plans were prepared for the completion of this work, and tenders called for on October 20 last. Contract had not been awarded by the end of the fiscal year.

On November 15 last, authority was given to expend the sum of \$50 in rescuing and piling up safely, considerable timber which had been washed off the substructure of this breakwater. This work was performed between December 17 and 22, 1906, inclusively.

The total expenditure on these works, between July 1, 1906, and March 31, 1907, was:—

Dredging, including inspection, repairs to piers, &c., \$19,812.64.

GRAND BEND.

Grand Bend is a village situated on the easterly shore of Lake Huron, at the mouth of the Sauble river, about fifteen miles from Exeter, which is the nearest railway station, on the London and Wingham branch of the Grand Trunk Railway, about thirty miles south of Goderich.

On July 10 last, authority was received to expend the sum of \$600 to repair damage done to water pier caused by previous storms and settlements. This work was commenced in July and continued until September 12, 1906.

On November 23 following, authority was received to expend a further sum of \$100 in completing repairs.

As reported on November 22 last, the approach to this wharf was washed away by the storm of October 27 and 28 last, but, owing to the large amount of ice existing, the approach could not economically be renewed before the end of the fiscal year.

The total expenditure on these works, between July 1 and March 31, 1906, was \$699.64.

HAILEYBURY.

The town of Haileybury, on the west shore of Lake Timiskaming, is the chief lake port on the route of the Toronto and Northern Ontario Railway, 108 miles from North Bay. Naturally it links the rail and water traffic, navigation extends over a distance of 150 miles. It is five miles from Cobalt, the heart of an important mineral district.

The construction of a wharf was commenced in 1900-1, and proceeded with during irregular intervals until the completion in June, 1906. (For full particulars of construction see report for fiscal year 1905-06).

In 1890, Mr. C. C. Farr, Haileybury's first resident, built two piers 20 by 20 feet, intended to serve as the nucleus of a wharf. This submerged obstruction, lying 150 feet south of present wharf, was removed by the dredge *Queen*, in 1895, at a cost of \$290.

The wharf consists of a dry masonry dike, forming the approach 16 feet wide on top, 516 feet long and a landing head of pile work understructure and open face crib-

SESSIONAL PAPER No. 19

work superstructure sheathed with tamarack. The timber structure incloses the outer end of the approach and extends 50 feet beyond, having a frontage of 111 feet and affording 225 lineal feet of dockage, including 50 lineal feet for shelter on the south side. The elevation of flooring is 13 feet above M.L.W.L. at which stage a minimum depth of 8 feet is available along the front. Water rises 12 feet. The whole structure is built strong to withstand the heavy pressure from the ice. A freight shed 12 by 24 has been erected on the dock.

Parliament having granted at its last session the sum of \$1,000, for erecting a handrailing on the wharf, materials were procured, and in the fall of 1906, 50 per cent of the railing (total length, 1,000 L feet) was erected under difficulty, owing to scarcity of labour, high price of same, and continuous heavy traffic on wharf.

Expenditure during fiscal year 1906-7, \$1,191.20.

HAMILTON.

Hamilton, a city in the county of Wentworth, is situated on the south shore of Burlington bay, at the western extremity of Lake Ontario, distant thirty-nine miles west of Toronto. It has extensive manufactures. Population, 65,000.

At the last session of parliament, the sum of \$30,000 was appropriated for the construction of a wharf, and on April 20 last, a contract was awarded to Mr. A. A. McDonald, to construct same for the sum of \$71,000.

The work consists in the construction of a revetment wall, 1,230 feet long, extending easterly from the Rogers wharf, at the foot of Catherine street, which has been purchased by the city of Hamilton. The wall is composed of a pile substructure, 20 feet in width, and a concrete superstructure, 10 feet wide on top. Work was commenced on June 27 and is still in progress.

Total expenditure, including dredging, for fiscal year 1906-7, \$32,890.42.

HONORA.

Honora is a village on the north shore of Manitoulin Island, district of Algoma, distant thirteen miles from Little Current.

On August 25 last, authority was given to expend the sum of \$225, for repairs to the foundations of warehouse.

Work was commenced on the 1st and completed on October 29, and consisted in the construction of a crib, 10 feet by 10 feet by 14 feet, under the northerly end of the warehouse, to replace pile foundation which had been damaged by an ice shove.

Total expenditure for fiscal year 1906-7, \$211.66.

JORDON HARBOUR.

Jordan Harbour is situated on the southwest shore of Lake Ontario, six miles westerly from Port Dalhousie. It is composed of two parallel piers extending out into the lake, affording a good landing but no shelter from easterly gales. Large shipments of fruit are annually made from this place.

On July 27 last, authority was given to expend the sum of \$75 for the completion of the stone filling in the piers of the bridge, and the placing of stone talus around same; on August 4, arrangements were made with Mr. H. Carson to do the work, which was completed on August 18 last.

Total expenditure for fiscal year 1906-7, \$2,020.48.

KINCARDINE.

Kincardine is a prosperous town situated on the east shore of lake Huron, in the county of Bruce, thirty-nine miles south of Southampton and thirty-two miles north of Goderich. It is the terminus of the Wellington, Grey and Bruce division of the Grand Trunk Railway. Population about 3,000.

7-8 EDWARD VII., A. 1908

At the last session of parliament, the sum of \$1,500 was appropriated for repairs to piers and dredging, and on August 4 last, authority was received to expend the sum of \$1,000 for repairs to piers by day labour.

Work was commenced on September 3, 1906, and completed on March 29, 1907, and consisted in the renewal of a portion of decking and waling at outer end of south pier; the renewal of 213 feet of waling in inner harbour; the construction of 100 feet of backing to inner end of north pier, and a small amount of stone filling to south pier.

Total expenditure during the fiscal year 1906-7 is \$1,488.96.

KINGSVILLE.

Kingsville is situated on the north shore of Lake Erie, in the county of Essex, about twenty-five miles east of the mouth of the Detroit river, and on the line of the Père Marquette Railway. Population about 1,600.

On July 25 last, authority was received to expend the sum of \$375, by day labour, for urgent repairs to easterly pier and to the customs warehouse.

Work was commenced on the 6th and completed on August 25, 1906; it consisted of the renewing of the decking of 22 feet of easterly pier; renewal of six mooring posts, and general repairs to warehouse, including repainting roof of same.

Total expenditure, including dredging, for fiscal year 1906-7, \$2,150.62.

LEAMINGTON.

Leamington is a prosperous village situated on the north shore of Lake Erie, in the County of Essex, about thirty-seven miles from the city of Windsor, on the lines of the Père Marquette and Michigan Central Railways. Population about 1,800. It is the centre of a thriving farming district. Large and numerous oil wells have been discovered in the vicinity of Leamington recently.

The telephone, mail and boat services are carried on with Pelee Island from this place.

On November 19, 1906, authority was received to expend the sum of \$25 in removing 15 feet of sheet piling on easterly side of pier, at shore end, for the purpose of creating an opening to retard the extension of shore-line. This work was immediately performed.

Total expenditure during the fiscal year 1906-7, \$25.

LITTLE CURRENT.

Little Current, a town of some 300 inhabitants, is situated on the east shore of Manitoulin island, on the north channel of Georgian bay.

On May 25, 1904, an agreement was entered into with Mr. C. S. Boone, to blast and dredge a channel about 1,400 feet long by 300 feet wide, with a depth of 22 feet below extreme low water.

Work was continued on July 1 and closed for the season on November 17. The dredge removed 47,453 cubic yards of rock.

Total expenditure for fiscal year 1906-7, \$144,436.70.

MAGNETAWAN.

Magnetawan is a village on the Magnetawan river, sixteen miles northwest of Burks Falls, in the township of Chapman.

At the last session of parliament, the sum of \$1,000 was appropriated for the construction of a wharf at that place.

Subsequently, the department decided to purchase the existing wharf property from Mr. D. B. Best, for the sum of \$450.

The necessary plans and descriptions for the conveyances have been prepared and forwarded to the department, at Ottawa.

SESSIONAL PAPER No. 19

MALLORYTOWN.

Mallorytown is a small town on the main line of the Grand Trunk Railway, distant fourteen miles west of Brockville, in the county of Leeds.

At the last session of parliament, the sum of \$1,500 was appropriated for repairs and additions to the landing pier, and on July 16, authority was given to proceed with the work by day labour.

Work was commenced on August 31, and completed on October 4; it consisted in raising the old portion of the wharf, about two feet at one corner, and renewing the superstructure where necessary; in constructing an 'L,' 24 feet long by 12 feet wide at outer end, and removing, by blasting, a rock in the approach to the wharf and levelling and grading same from the public highway.

Total expenditure for fiscal year 1906-7, \$1,307.05.

MEAFORD.

Meaford is an incorporated town in the county of Grey, on the west side of the Georgian bay, twenty-one miles west of Collingwood and twenty miles east of Owen Sound. It is the terminus of the Northern Division of the Grand Trunk Railway. Population 2,500.

At the last session of parliament, the sum of \$20,000 was appropriated for harbour improvements.

A contract was awarded to Mr. R. Weddel, of Trenton, to do the required dredging.

Work was commenced on August 23, and closed for the season on November 24. The dredge removed 38,032 cubic yards.

Total expenditure for fiscal year 1906-7, \$13,709.12.

MIDLAND.

Midland, Simcoe county, is the terminus of the Midland division of the Grand Trunk railway, on Georgian bay. Population, 4,500. Large quantities of lumber are shipped to and from this harbour and the railway company has two large grain elevators here, with a capacity of 2,000,000 bushels. There is also a large smelting works in operation.

At the last session of parliament, the sum of \$50,000 was appropriated for harbour improvements.

On June 5 last, a contract was awarded to the Owen Sound Dredge and Construction Company, to dredge in front of the new Grand Trunk Railway elevator, along the face of their wharf and in the approaches to their elevator, to a depth of 25 feet below low water.

Five days dredging was also performed in the harbour proper, at the coal dock, by dredge No. 9, removing 2,540 cubic yards.

Work continued from July 1 and closed for the season on December 1, during which period the dredges No. 9, *Monarch* and *Excelsior* removed 149,264 cubic yards.

On August 2 last, authority was given to expend the sum of \$600, in repairing the approach to the wharf, at the foot of King street, which work consisted in the renewal of the decking where necessary and the placing of new joists and caps in the approach for a length of 97½ feet.

Total expenditure for fiscal year 1906-7:—

Repairs to wharf.	\$ 533 86
Dredging.	65,398 80
Total.	<hr/> \$69,932 66

7-8 EDWARD VII., A. 1908

MITCHELL'S BAY.

Mitchell's Bay, in the county of Kent, situated at the northeasterly corner of Lake St. Clair, is about thirty-two miles by water and sixteen miles by rail from the city of Chatham. Principal industry is farming and fishing; large quantity of sugar beets are grown in the district and shipped out by scows over the bay and up the Chenal Ecarté river to Wallaceburg.

At the last session of parliament, the sum of \$3,000 was appropriated for improvements, and on June 1, 1906, authority was given to enter into an agreement with the Chatham Dredging Company, of Chatham, for the dredging of a channel, about 1,400 feet long, leading to wharf, with an average width of about 40 feet and a depth of 6 feet below low water level.

Work was commenced on June 30 and completed on July 13, 1906; 7,036 cubic yards of clay and sand were excavated.

Total expenditure for fiscal year, \$1,100.40.

MONETVILLE.

Monetville is a farming settlement situated in the township of Haddo, on the west arm of Lake Nipissing, some thirty-five miles from Sturgeon Falls.

In the autumn of 1903, a wharf 40 feet in length, with storehouse and shanty, was built to accommodate local traffic, at a cost of \$578.17.

At its session of 1906, parliament granted \$900 towards improvements to this wharf.

Accordingly, in August and September, 1906, an extension of 52 feet was built to the wharf, the storehouse, 30 by 17 feet, was moved down to the wharf and an extension, 22 by 17 feet, was built. A roadway was blasted through the rock bluff, the winter slip for all sleigh traffic. Some blasting was also done to improve the wharf approach.

The wharf, 7 feet high, is built on a rock ledge with a frontage of 92 feet, carrying 13 feet at low water.

Expenditure during the fiscal year 1906-7, \$882.58.

MCGREGOR'S CREEK.

McGregor's creek, in the county of Kent, flows through the southeasterly part of the city of Chatham and empties into the River Thames.

At the last session of parliament the sum of \$3,000 was appropriated for the renewal of bank protection work, at the mouth of the creek, and July 17, 1906, authority was received to proceed with this work.

Subsequently an agreement was made for the driving of the necessary piling and placing of timber grillage on same; for the construction of a concrete revetment wall, and the driving of the anchor piles.

The sum of \$1.25 was paid for the driving of each pile in substructure of wall, and \$2.50 for each anchor pile; \$110 for placing timber grillage on piling, for necessary excavating for tie rods and cutting off of old existing sheet piling. Piling, timber and iron supplied by the department.

Later an agreement was made for the construction of the concrete wall, at a rate of \$6.50 per cubic yard, which included the placing of all necessary tie rods.

Operations were commenced on August 9, 1906, and were continued until December 27 following, when work ceased for the winter.

The work done consisted of the driving of a double row of piling, with timber grillage fastened to same, to serve as foundation for 172 feet of concrete retaining wall, 3 feet 6 inches wide at base and 2 feet 6 inches at top, and reaching from 1 foot below L.W.L. to a height of 8 feet 3 inches above L.W.L., wall being tied back by 1½-inch iron tie rods fastened securely to anchor piles, driven 10 feet apart and about 25 feet in rear of wall. All the anchor and front piles were driven and 136 feet of

SESSIONAL PAPER No. 19

concrete wall completed, with tie rods, &c. On the remaining 36 feet of this work concrete footing blocks were placed.

The corporation of the city of Chatham undertook the providing and placing of necessary filling in rear of wall, and have already done a portion of this work.

Total expenditure during the fiscal year 1906-7, \$2,466.13.

OLIPHANT.

Oliphant is a district or post office centre on Lake Huron, in the county of Bruce, and is eight miles distant from Wiarton. It is the principal point of communication between mainland and the adjacent fishing islands.

At the last session of parliament the sum of \$600 was appropriated for the construction of an 'L' at the outer end of landing wharf, and authority was received on July 19 last to proceed with the work by day labour.

Operations were commenced on August 1, 1906, and completed on September 11 following.

The work performed consisted of the construction of 61 feet of close-faced crib-work, 15 feet wide and 8 feet high, filled with stone ballast, and floored with 3-inch planking; also some slight repairs, which left this whole work in good condition and of great service, principally to the summer residents in this district.

The total expenditure during the fiscal year is \$598.77.

OTANABEE RIVER.

Otanabee river is an important waterway through the town of Peterborough and county of Peterborough emptying into Rice lake. It forms part of the Trent Valley canal system.

At the last session of parliament, the sum of \$7,000 was appropriated for the completion of the dredging of a channel, 100 feet wide, about 2,100 feet long and 9 feet deep, southerly from Hunter street bridge, in Peterborough. On June 30, authority was given to proceed with the work.

The dredge *Trent* belonging to the Department of Railways and Canals, was employed to do the work, and the dredged material was deposited on the west side of the river, from whence it was taken by the municipality and used for filling in the depression between Simcoe and Charlotte streets. The dredge removed 16,588 cubic yards of clay and coarse gravel.

Total expenditure for fiscal year 1906-7, \$6,999.58.

OWEN SOUND.

Owen Sound is situated at the mouth of the Sydenham river, which flows into the head of Owen sound, an arm of the Georgian bay, in the county of Grey.

It is the centre of an extensive agricultural district and the terminus of the Grand Trunk Railway branch of the Georgian Bay and Lake Erie division, also the Canadian Pacific Railway, Toronto, Grey and Bruce division. There are several lines of steamers running to and from Owen Sound. Population 10,000.

An agreement was entered into with Mr. A. F. Bowman to do certain dredging in the harbour at 11½ cents per cubic yard.

Work was commenced on July 1, and completed on November 24. The dredge removed 71,820 cubic yards.

Total expenditure for fiscal year 1906-7, \$15,220.34.

PARRY SOUND.

Parry Sound is situated on the east shore of the Georgian bay, in the district of Parry Sound. Population, 3,000. The chief trade is in lumber.

7-8 EDWARD VII., A. 1908

At the last session of parliament, the sum of \$2,500 was appropriated for renewing the cribwork protection work at the Two and Seven Mile Narrows, on the north shore of the Georgian bay; on August 15 last, authority was given to proceed with the work by day labour.

Work was commenced on September 1, and completed on October 31; it consisted in entirely rebuilding the cribwork protection on each side of the Two Mile Narrows and at the Seven Mile Narrows, all defective work was renewed and new timbers substituted where required. These protection works are for the purpose of preventing the large steamers, plying between Penetanguishene and Parry Sound, from striking the rocks on either side.

An appropriation of \$1,500 was also made for the extension of the government wharf northerly, a distance of 170 feet by 16 feet wide, graded in the rear with earth and gravel; on August 30, authority was given to proceed with this work by day labour. Work was commenced on October 30 and completed on November 26.

Total expenditure for fiscal year 1906-7, \$1,499.63.

PEMBROKE.

Pembroke, in the north riding of the county of Renfrew, is on the south shore of Allumette lake, which is part of the Ottawa river. It is an important station on the Canadian Pacific railway and of the Grand Trunk railway, 104 miles west of Ottawa. A steamer runs daily from Pembroke to Des Joachims, a distance of 45 miles. Population, 9,000.

On February 19, 1904, a contract was entered into for the construction of a wharf opposite the town, at the foot of Albert street.

The structure consists of pile bents, 20 feet wide and 1,342 feet long, forming the approach and a landing head of a total length of 550 feet, 50 feet wide, also of pile bents, with the outer face in 8 feet of water at low water level. The outer face of the part which is 50 feet wide is built with close sheet piles, the top of the wharf is 8 feet above low water level, except at the point where it crosses the Canadian Pacific railway trestle work, where it is 6 feet higher, with slopes both ways from that point. There are five landing slips at the outer end, and a combined freight shed and waiting room.

The work was commenced in the month of August, 1904, and completed in June, 1905.

During the fiscal year 1905-6, fenders were added to the landing faces of the wharf. In March, 1907, the handrailing was repaired at a cost of \$72.50.

Expenditure during fiscal year 1906-7, \$78.09.

PENETANGUISHENE.

Penetanguishene, in the county of Simcoe, is situated on the northwest peninsula in Georgian bay, formed between Nottawasaga bay and the waters of the Severn river, forty miles northwest of Barrie. It is the terminus of a branch of the Grand Trunk Railway.

At the last session of parliament, the sum of \$1,000 was appropriated for repairs to the wharf, and on July 17 last, authority was given to expend this amount by day labour.

Work was commenced on May 14 and completed on June 30; it consisted in the renewal of the superstructure of the northerly portion of the esplanade, 200 feet in length by 18 feet in width.

An agreement was made with Mr. A. F. Bowman to perform the necessary dredging in the harbour, along the east side of the channel leading to the town wharf, at the rate of 12 cents per cubic yard. The dredge removed 94,500 cubic yards. This work was completed on October 13 last.

Total expenditure for fiscal year 1906-7:—

Dredging	\$13,500
--------------------	----------

SESSIONAL PAPER No. 19

POINT EDWARD.

Dredging.

Point Edward is situated at the head of and on the east side of the St. Clare river, in the county of Lambton, adjoining the town of Sarnia and is sixty-one miles west of London.

It is the principal port of call for the five steamers owned by the Northern Navigation Company, and which load and unload at the spacious Grand Trunk Railway Company's freight sheds.

A large amount of iron ore is brought into this port from West Superior and other upper lake ports. An extensive unloading plant now under construction will employ about fifty men continually unloading ore.

A large Grand Trunk Railway elevator at this point handles a considerable amount of grain every season.

It is the terminus of a branch of the Grand Trunk Railway, which company carries on a heavy business at this point.

Owing to the existing swift current, in the river, at this point, and the sandy nature of the bottom of Lake Huron, adjoining Point Edward, a large quantity of material is brought down and deposited annually, which necessitates considerable dredging in order to maintain channel to necessary width and depth.

At the last session of parliament the sum of \$20,250 was appropriated for dredging at this point, and May 21, 1906, authority was given to proceed with the work; contract for same having been previously let to the Dominion Dredging and Construction Company of Ottawa.

Dredging was commenced on May 19 and continued until August 15, 1906, when authority was received to continue dredging at this place until further orders. All urgent work required was completed on September 15, 1906, and dredging ceased.

The work performed consisted in the completing of a channel 250 feet wide along water front of docks, to a depth of 22 feet below L.W.L. Some 54,150 cubic yards of sand and gravel were excavated, at a total expenditure during the fiscal year 1906-7, including inspection, of \$17,227.12.

PORT ARTHUR.

During the last fiscal year dredging was done at the south end of channel to Canadian Northern coal dock and Atikokan smelter works, and will be continued; all shallow places will be dredged to the depth of 22 feet.

Further dredging is required in channel to King's elevator, at north entrance to harbour, and in front of elevator wharf.

The total amount dredged, from July 1 to end of season 1906, was 443,175 cubic yards scow measurements, and the expenditure for the nine months ending March 31 last, \$67,990.91.

FORT WILLIAM.

The entrance channel to the Kaministiquia river, following line of range lights, was deepened in places where the material had washed into the channel.

The new entrance channel, parallel to Empire elevator wharf, will require re-dredging in several places, as it is not down to depth called for in contract.

Dredging was done at different places in the Kaministiquia river where the water was not of sufficient depth, namely, opposite C.P.R. coal dock, flour shed, elevator E, McKellar dock, Murphy's coal dock, first bend above elevator D, Grand Trunk Pacific wharf, western elevator and Canadian Iron and Foundry Company's wharf. In addition, the strip of land in front of the new C.P.R. freight shed, near McKellar's creek, was dredged away. Dredging also was done at the turning basin, at the Mission river.

The soundings in the Kaministiquia river were taken to the north limit of the town of Fort William, one mile above the C.N.R. coal docks.

7-8 EDWARD VII., A. 1908

MISSION RIVER.

Work was done at the entrance channel to the Mission river; the dredging is still within 1,700 feet of the shore line, and as soon as the ice leaves the bay, a dredge will continue this channel.

The total amount dredged from July 1 to end of season in entrance channels to Kaministiquia and Mission rivers, as well as in the river, was 1,765,825 cubic yards, scow measurement.

MAGNET CHANNEL.

Some boulders were removed from this channel and buoys placed to mark the channel, at a cost of \$833.91.

PORT BRUCE.

Port Bruce is situated at the mouth of Catfish creek, in the county of Elgin, on the north shore of Lake Erie, and about five miles south of Aylmer. Population about 100. Principal industry is fishing, in the pursuance of which it ranks as an important point.

At the last session of parliament the sum of \$5,000 was appropriated for repairs to piers and dredging, and on July 25, 1906, authority was given to proceed with the work.

A contract was made to perform the necessary dredging. Operations started on July 26 and continued until August 9, 1906, during which time some 8,488 cubic yards of sand and gravel were excavated, in removing a bar which had formed across entrance to piers, thereby completely blocking either ingress or egress.

Repairs to piers, by day labour, were commenced on August 1, and continued until March 30, 1907, when appropriation was exhausted.

The work performed consisted in the construction of 90 feet of an extension to outer end of westerly pier, 20 feet wide, and reaching to a level of 5 feet above L.W.L.; stone filling required was only partially completed; some minor repairs were also made to easterly pier.

The total expenditure on these works during the fiscal year 1906-7 was as follows :

Dredging, including inspection.	\$2,122 00
Repairs to piers.	2,877 83

PORT COLBORNE.

Port Colborne is situated on the north shore of Lake Erie, in the county of Welland, about twenty miles west of the city of Buffalo.

It is the terminus, on Lake Erie, of the Welland canal, and, as such, is a point of great importance, in connection with the transportation of grain and other freight from the west to the St. Lawrence ports.

In 1891, the work of improving the harbour of Port Colborne was decided upon, and for this purpose the Department of Railways and Canals was entrusted with the construction of docks, elevators and other terminal facilities, and the Department of Public Works with the construction of two breakwaters required for the protection against storms of the commercial docks.

The first, or western breakwater, was completed in the autumn of 1904. Its total length is 4,424 feet; the outer 2,400 feet being 50 feet in width and the remainder 25 feet in width; the height of the break is 11 feet above low water.

This structure is built of timber cribwork, but the covering is concrete, varying in thickness from 1 to 1½ feet. At the outer end a block, 100 feet long by 60 feet wide,

SESSIONAL PAPER No. 19

and 13 feet above low water, carries a concrete lighthouse, built by the Department of Marine and Fisheries.

Along the south or exposed face is deposited a stone embankment reaching to a height above water, which varies now from 1 to 10 feet, but which will ultimately be made uniform to the latter height.

The second or eastern breakwater, is located at the entrance to the harbour and canal, the gap between the two breakwaters being 625 feet.

The structure is 2,460 feet in length and 35 feet in width, built of timber cribwork to within 1 foot of low water mark, with a concrete cribwork superstructure well filled with stone ballast, the break being 11 feet above low water mark.

This second breakwater was completed in June, 1906. During the fiscal year 1906-7, viz., from July 1, 1906, to April 1, 1907, the work done in Port Colborne consisted in building up the stone embankment along the south face of the western breakwater to the intended height of 10 feet above low water mark, and towards that end, 5,391 cubic yards of small stone, 4,375 cubic yards of large stone, were placed in that embankment, at a cost of \$18,801.10, as follows :—

5,391 c. yds. small stone at 85 cents per c. yd.	\$ 4,582 35
4,375 c. yds. large stone at \$3.25 per c. yd.	14,218 75
	<hr/>
	\$18,801 10

To complete the embankment, which is a much required protection against damage by storm, it will be necessary to spend an additional sum of \$35,000, made as follows :—

5,000 c. yds. small stone at \$1 per c. yd.	\$ 5,000
5,000 c. yds. concrete blocks at \$6 per c. yd.	30,000
	<hr/>
	\$35,000

Total expenditure in 1906-7, \$22,653.73.

PORT DOVER.

Port Dover is situated on the north shore of Lake Erie, about forty miles south of Woodstock and fifty miles west of Port Colborne. It is a terminus of a branch of the Grand Trunk Railway, and is a favourite summer resort. Population about 1,200.

On November 28, authority was received to expend, by day labour, the sum of \$400 to repair damage done by storm to outer end of westerly pier. Material was immediately ordered and work was performed between January 2 and 14, 1907.

The work done consisted in the reconstruction of about 8 feet of the outer end of pier, from L.W.L., and filling of same with stone.

On the completion of this work a statement covering expenditure was submitted, as same was to be charged against Department of Marine and Fisheries.

Total expenditure during the fiscal year 1906-7, is \$640.93.

PORT ELGIN.

Port Elgin is a harbour of refuge, situated on the east shore of Lake Huron, in the county of Bruce, five miles south of Southampton, fifty-six miles north of Kincardine. It is on the Wingham, Grey and Bruce division of the Grand Trunk Railway. Population about 1,600.

It is a port of call for the local steamers, and the principal export is lumber, tanbark and cordwood. The Grand Trunk Railway have constructed a spur line from station to pier.

On June 1, 1906, authority was given to perform urgent dredging required in this harbour to afford safe entrance to and landing at commercial dock. An agree-

7-8 EDWARD VII., A. 1908

ment was entered into with the Marlton Dredging Co., of Goderich, for the performance of this work.

Operations were commenced on June 30, and were completed on July 16, 1906, during which period some 10,540 cubic yards, scow measurement, were excavated, at a cost of, including inspection, \$3,199.50.

PORT HOPE.

Port Hope is situated on the north shore of Lake Ontario, in the county of Durham, sixty-three miles east of Toronto, on the Grand Trunk Railway. The chief trade is lumber and grain.

At the last session of parliament the sum of \$3,000 was appropriated for repairs to piers, and on July 21 last, authority was given to proceed with the work by day labour.

Work was commenced on July 1 and completed on December 31; it consisted in repairing 180 feet of the west pier and 256 feet of the east pier, south of the warehouse, and rebuilding 178 feet of the wharf in the inner basin of the old harbour.

Total expenditure for fiscal year 1906-7, \$3,259.49.

PORT STANLEY.

Port Stanley is an important harbour of refuge, situated on the north shore of Lake Erie, at the mouth of Kettle creek, in the county of Elgin, eight and a half miles by rail south of the city of St. Thomas, and twenty-three and a half miles south of the city of London. It is the terminus of the Pere Marquette Railway and of the Southwestern Traction Company Electric Railway.

A coal ferry, owned by the Lake Erie Coal Company, of Walkerville, carrying thirty cars, of 100,000 lbs. capacity plies between this port and Conneaut, Ohio, making on an average two round trips every thirty hours. Between January 1 and December 31, 1906, some 368,602 tons of coal, 56,201 tons of steel and 8,944 tons of miscellaneous freight was brought by this coal ferry into the port. Other imports, consisting of wheat, lumber, cedar posts and general merchandise were also brought into this port; as a revenue harbour it is thus of considerable importance. The principal industry is fishing. Some eight tugs, and other small craft being engaged in this occupation.

It is a favourite summer resort. Population about 750.

It is a regular port-of-call for the Merchants' line of steamers from Montreal, and for the Cleveland and Port Stanley line.

The construction of a grain elevator, by the John Campbell Company, Limited, of St. Thomas, for the purpose of bringing grain direct from Fort William, increases the necessity for keeping this harbour and its entrance dredged to a sufficient depth to accommodate deep draught vessels.

At the last session of parliament the sum of \$60,000 was appropriated for harbour improvements, and on July 17, 1906, authority was received to expend, by day labour, the sum of \$1,000 for general repairs to piers, which amount was subsequently increased by an additional \$6,750 to provide sheet pile protection work to about 250 feet of face of westerly pier, which had settled badly towards creek.

The above work was commenced on September 1, and was still in progress at the end of the fiscal year.

The work performed consisted of the renewal of 50 feet of decking at the outer end of easterly pier; repairing damage done to outer end of pier, and protecting it with iron corner plates; also the renewal of snubbing posts; some stone filling and other minor repairs to this pier. Repairing 50 feet of outer end of westerly pier; tearing down and rebuilding of 154 feet in inner harbour, and protecting face of same with 8-inch by 8-inch by 28 foot pine sheet piling, which was securely fastened back by heavy tie-rods to anchor piles, driven 15 feet in rear of dock and 10 feet apart; about a week's work was also performed on about an additional 80 feet, preparatory to protecting its face with sheet piling similar to that already described.

SESSIONAL PAPER No. 19

Dredging.—On May 17, 1906, a contract was made with Messrs. Manely & Co., of Toronto, for the performance of necessary dredging.

Work was in progress at the beginning of the fiscal year and continued until October 20, 1906, during which time, some 45,082 cubic yards of clay and sand were excavated.

The dredging performed consisted in the excavating of a channel, 950 feet long and 100 feet wide at outer entrance to piers, to a depth of 20 feet below L.W.L.; dredging in inner harbour to a depth of 18 feet below L.W.L.; also a few days dredging in the Lake Erie Coal Company's slip and at outer entrance to same.

On July 20, 1905, a contract was let to the Pacific Construction Company, of Ottawa, for the construction of two breakwaters, each 500 feet long.

In April, 1906, this contract was transferred to Messrs. Haney & Miller, of Toronto, the amount of contract being \$105,828.

Operations were commenced on August 7, 1906, and continued about November 1, 1906, when work was closed down for the winter, during which time two cribs, 100 feet long, 35 feet wide, and 17 feet deep, were constructed. All the timber and iron required for the completion of the substructure in this work are on hand, as well as an extensive plant for the further prosecution of the work in a expeditious manner.

The progress made on this work during the last fiscal year was not satisfactory, which the contractors attributed to great difficulty in securing suitable labour and prompt delivery of material.

The expenditure on these works, during the fiscal year 1906-7, was as follows:—

Repairs to piers	\$ 6,068 95
Dredging, including inspection	6,560 84
Breakwater, including inspection	31,613 65
	<hr/>
	\$41,243 44

RIVER THAMES (MOUTH).

Dredging.

A dredged channel, approximately 7,000 feet long and 100 feet wide, has to be maintained across the bar at easterly end of Lake St. Clair, to permit of safe entrance of boats to the River Thames. Owing to the material being principally fine sand and to the exposed position of this channel, considerable filling in occurs.

In May, 1906, a contract was let to Mr. C. S. Boone, of Toronto, for the cleaning out of this channel.

Operations were commenced on September 13, and continued until November 22, 1906, when work closed down for the winter; during that time 59,018 cubic yards of clay and sand were excavated, in the partial dredging of this channel to a depth of 13 feet below low water level.

ROACHE'S POINT.

Roach's Point is a small summer resort on the west shore of Cook's bay, an arm of Lake Simcoe, in the county of York.

At the last session of parliament, the sum \$3,200 was appropriated for the construction of a wharf and on October 20 authority was given to proceed with the work by day labour.

The work, commenced on January 29, is not yet completed. It consists in the construction of a wharf, 255 feet long by 20 feet wide, composed of stone approach, 153 feet long by 20 feet wide, extending out to a timber wharf composed of cribs and spaces, 100 feet long by 20 feet wide.

Total expenditure for fiscal year 1906-7, \$2,052.88.

7-8 EDWARD VII., A. 1908

RONDEAU.

Rondeau is an important harbour of refuge, situated on Pointe aux Pins, about nineteen miles south of Chatham and forty-five miles west of Port Stanley. It is a favourite summer resort and the terminus of the Sarnia and Rondeau branch of the Père Marquette Railway.

In the inner harbour and at westerly side along coal dock, a modern and extensive coal handling plant is used by the Lake Erie Coal Company, for unloading coal from their boat, which runs regularly between this port and Conneaut, Ohio. One hundred round trips were made by this boat during the season of 1906; the capacity is 1,600 tons, in bulk, but frequently, lighter loads have to be carried owing to sand bars which form at outer entrance to channel during heavy storms from the southwest. This difficulty, however, will be largely overcome by the construction of breakwater pier now under contract.

The duty collected during the last fiscal year on coal brought into this port amounted to \$66,411, thus showing its importance as a revenue port.

It is the headquarters of the 'Post Fishing Company,' of Sandusky, Ohio, who have two steam tugs working out of this harbour, and which export a large quantity of fish annually.

It is a port of call, during the summer season, for the passenger steamer *City of Grand Rapids*, running to Cleveland.

At the last session of parliament, the sum of \$60,000 was appropriated for harbour improvements.

In May, 1906, a contract was let to Mr. C. S. Boone, of Toronto, for the necessary dredging; work was in progress at the beginning of the fiscal year and continued until September 4, 1906.

The work consisted in the opening up of a channel at entrance to harbour, to a depth of 20 feet below L.W.L.; dredging between piers to 18 feet below L.W.L., and a few days dredging in removing obstructions in the Lake Erie Coal Company's slip. In the execution of this work some 40,393 cubic yards of clay and sand were removed.

On July 17, 1906, authority was received to spend, by day labour, the sum of \$4,500 on repairs to piers. Operations were commenced on August 8, 1906, and continued until March 16, 1907. The work performed consisted of the driving and fastening of 82 running feet of double sheet pile protection work, at outer face of westerly pier, which completed the work of protecting this face throughout with sheet piling, for the purpose of preventing the sand from drifting through pier into channel; twelve clusters of white oak spring piles, 40 feet long, and three piles in each cluster, were driven along the face of westerly pier, to prevent further damage being done by boats entering this harbour. These clusters of piles were securely wrapped with wire cable. The swift current running at times between these piers render boats liable, particularly at night, to sheer against pier. General repairs were also made to inner and outer end of westerly pier, and waling renewed along portion of inner face of same. There now remains on hand considerable material which will be utilized towards the completion of renewals and repairs during the coming fiscal year.

On July 14, 1905, contract was let for the construction of 1,000 feet of breakwater at outer entrance to harbour, at the price of \$110,000.

On April 6, 1906, this contract was transferred, but, to date, work has not yet been commenced, nor has any material been delivered on the ground. The contractors attribute delay in starting this work to the congestion of railroad traffic in the west, which has delayed delivery of timber required to commence operations.

The total expenditure on these works during the fiscal year, 1906-7, is as follows:—

Dredging, including inspection	\$5,609 82
Repairs to piers	4,500 00

SESSIONAL PAPER No. 19

SARNIA.

Dredging.

Sarnia is situated on the east bank of the St. Clair river, in the county of Lambton, about three miles south of Lake Huron, and fifty-nine miles by rail from London.

There are two lines of the Grand Trunk Railway, and one of the Père Marquette entering the town. Population about 8,000. It is a port-of-call for a number of lines of steamers and is an important shipping point.

On June 2, 1906, authority was given to expend the sum of \$234 on a few days' dredging, required opposite the Imperial Oil Company's dock, and on July 9, following, further authority was received for the expenditure of \$2,000 for dredging required in front of and between the Sarnia Bay Lumber Company, and the Cleveland-Sarnia Saw-mill Company's dock, to a depth of 15 feet below L.W.L. in order to permit the entrance of large rafts from the river.

An agreement was made with the Sarnia Bay, Lumber, Timber & Salt Company, of Sarnia, for the performance of this work.

Work was performed between July 4 and August 11, 1906, during which time some 16,900 cubic yards of clay and sand were removed.

The total expenditure during the fiscal year 1906-7, including inspection, amounted to \$2,979.04.

SAUGEEN RIVER.

Saugeen river empties into Lake Huron at a point about thirty-two miles from Walkerton and about forty-three miles from Sarnia. At the mouth of this river is situated the thriving town of Southampton.

At the last session of parliament, the sum of \$5,000 was appropriated for improvements at mouth of this river, and on November 22, 1906, authority was received to expend, by day labour, the sum of \$475 on urgent repairs and renewals to docks.

Operations were commenced on November 14 and completed on December 31, 1906.

The work performed consisted of the general repairs to 50 feet of north pier which had been damaged by ice; the driving of six anchor piles in rear of sheet piling on south pier, for the purpose of tying back about 52 feet of this sheet piling; filling behind same and covering with plank until spring; and the construction of a two-foot raise to 106 feet of outer face timber of south dock.

The total expenditure on these works during the fiscal year 1906-7 is \$4,997.44.

SAULT STE. MARIE.

Sault Ste. Marie, district of Algoma, is situated at the head of St. Mary's river, which connects lakes Superior and Huron.

At the last session of parliament, the sum of \$5,000 was appropriated for wharf improvements.

On November 10, 1905, an agreement was made to construct a warehouse on the government wharf, for the sum of \$7,905. Works were continued from July 1 and completed on October 26, and consisted in the construction of a warehouse, the main portion of which is 280 feet by 30 feet, with an 'L,' 21 feet by 72 feet.

Certain repairs were absolutely necessary to the main portion of the old wharf and the approach thereto, consisting of entirely redecking the approach, which is 24 feet by 230 feet, also the redecking the main thoroughfare, 30 feet by 225 feet, across the old wharf.

There has been installed in the new warehouse, electric light and water service at a cost of \$283.17.

Total expenditure for fiscal year 1906-7, \$6,322.66.

19—iv—10½

7-8 EDWARD VII., A. 1908

SEVERN RIVER.

Severn river (McDonald's chute) is situated not far below Sparrow lake, and consists of a narrow gorge on the main branch of the Severn river.

Washago is situated on the Severn river about half a mile from Lake Couchiching, and is a station on the Grand Trunk Railway between Toronto and North Bay.

At the last session of parliament the sum of \$3,500 was appropriated for works on the Severn river, as follows :—\$2,300 for the construction of a stop-log dam at McDonald's chute, No. 1, and \$1,200 for works of blasting at stop-log dam No. 1 at Washago. The department decided, however, not to construct the stop-log dam at McDonald's chute but to expend the sum of \$1,500 for blasting and removing rock at this place, and on September 28, authority was given to expend the amount by day labour.

An appropriation of \$400 was also made at the last session of parliament, for deepening over the rocky shoal at Washago, near the outlet of Lake Couchiching, and on July 17, authority was given to expend this amount by day labour.

The work at McDonald's chute, No. 1, consists in the blasting out of rock to provide an increased depth and width of the natural waterway above and below the stop-log dam No. 1, Little falls, and increasing the length of the dam 8 feet. The \$400 was expended in removing the rocky shoal in the Severn river, at the outlet of Lake Couchiching, in order to afford navigation up to the Canadian Northern railway bridge.

Total expenditure for fiscal year, 1906-7 :—

McDonald's chute.	\$1,098 59
Washago.	1,451 04
Total	<hr/> \$2,549 63

SHEGUINDAH.

Sheguindah is a hamlet on Manitoulin island, fourteen miles southeast from Little Current. It is a port of call for local boats plying between Collingwood and Sault Ste. Marie. Population 100.

On August 16 last, authority was given to expend the sum of \$300 in repairs to the wharf, and on September 25, authority was given to expend the sum of \$75 in partitioning warehouse.

Work was commenced on October 1 and completed on January 31; it consisted in replacing broken timbers and piles, where necessary, which had been wrecked by ice-shoves.

Total expenditure for fiscal year 1906-7, \$374.91.

SILVERWATER.

Silverwater is a small place situated on Bayfield Sound, on the north shore of Manitoulin island.

At the last session of parliament, the sum of \$3,500 was appropriated for the completion of the wharf at this place, out of this amount the sum of \$800 was to be used for the construction of a warehouse on the wharf. On July 21, authority was given to proceed with the work by day labour.

Work was commenced on August 6 and completed on October 13; it consisted in the construction of a wharf, composed of a stone approach, 20 feet in width on top by 80 feet in length, connecting the shore with a timber wharf of cribs and spans, 100 feet by 20 feet, and an 'L,' 80 feet by 20 feet.

The warehouse stands in the angle made by the wharf and 'L,' and is 18 feet by 45 feet on cribwork foundation.

Total expenditure for fiscal year 1906-7, \$3,640.47.

SESSIONAL PAPER No. 19

SOUTHAMPTON.

Southampton is a prosperous town situated at the mouth of Saugeen river, in the county of Bruce, and on the east shore of Lake Huron, thirty-two miles from Walkerton, the county town; it is a terminus of the Grand Trunk railway and a harbour of refuge and port of call for steamers of the Algoma Steamship Line. Population about 2,000.

On November 2, 1906, authority was received to expend by day labour the sum of \$400 in urgent repairs to breakwaters, which reach from shoreline to Chantry island.

Work was commenced on November 6, 1906, and ceased on March 29, 1907, and consisted in renewing portions of decking and walls of breakwaters, where serious breaches in work were threatened owing to decay and damage done by storm.

The total expenditure on these works during the fiscal year 1906-7 is \$114.45.

ST. JOSEPH.

St. Joseph is situated on the east shore of Lake Huron, in the county of Huron, about fourteen miles south of Goderich. Population, about 50.

During session of parliament, in 1902, the sum of \$5,000 was appropriated towards the building of a wharf at this point.

The wharf was partly constructed by day labour, when a contract was let in 1903, for the completion of same, for the sum of \$3,950.

Work was in progress at the beginning of the fiscal year and was continued until August 13, 1906, on which date the cribs and continuous superstructure to wharf was practically completed. The approach, however, was only partially completed.

That portion of approach built has suffered frequently from erosion, caused by severe storms, and owing to the exposed position of this locality. It has been shown that large stone only can be successfully used in the completion of this wharf.

Total expenditure during the fiscal year 1906-7, \$252.50.

THESSALON.

Thessalon is situated on the north shore of the north channel of Lake Huron, in the district of Algoma, fifty miles east of the 'Soo.' Considerable lumber is shipped from this place.

Certain urgent repairs were required to be made to the centre crib forming part of the warehouse foundation; this had to be raised and the building levelled by jack screws.

TORONTO.

Toronto harbour is situated on the north shore of Lake Ontario; it is formed by a circular bay one and a half miles in diameter, separated from the lake by a large island (formerly a peninsula), about six miles long, making a safe, well-sheltered harbour, capable of containing a large number of vessels.

At the last session of parliament, the sum of \$25,000 was appropriated for improvements at the eastern entrance.

Work was commenced on July 1, and consisted in general repairs to the east pier of the eastern channel, the renewal of a number of broken rods and a thorough overhauling of the plant, such as scows, &c.

On May 11 last, an agreement was made with Messrs. Haney and Miller to remove 35,000 cubic yards of material from the eastern gap, at 15 cents per cubic yard. Work commenced on the 22nd and completed on December 8. The dredge removed 31,794 cubic yards.

The government dredge *Montague* also worked in the approaches of the eastern gap, and from July 1 till July 31, removed 5,110 cubic yards.

7-8 EDWARD VII., A. 1908

The government dredge *Northumberland* begun work at the eastern gap on September 4, and closed for the season on December 6. During this period she was greatly delayed by stormy weather, and in October only worked 66 hours. She, however, approximately removed 35,000 cubic yards from the channel and approach, making a cut, through the bar, some 350 feet wide with a governing depth of 16½ feet.

On September 5, 1905, a contract was awarded to construct an extension to the island breakwater, 1,500 feet in length, but up to date, this work has not been commenced.

Total expenditure for fiscal year 1906-7, \$13,672.72.

THAMES RIVER WHARF AT LIGHTHOUSE.

At the last session of parliament, the sum of \$3,300 was appropriated for the completion of this wharf at Jeanette's creek, and on June 23, 1906, authority was received to expend this grant, by day labour.

Operations were resumed on July 1, and continued until October 31, 1906, when work ceased owing to the appropriation being exhausted. During that time work performed consisted of the completion of the driving of pile foundation, with timber grillage, to act as substructure for concrete retaining wall; the concrete footing blocks were all placed, and anchor piles driven at 10 feet intervals in rear of wall, securely fastened to front piles by heavy iron tie-rods.

This work has a frontage of 180 feet, with two returns of 20 feet each; portion of filling in rear of piling has been done.

The total expenditure on this work during the fiscal year 1906-7 is \$3,603.27.

TREADWELL.

Treadwell is a post village in Prescott county, on the south shore of the River Ottawa, four miles north of Plantagenet, and forty-one miles east of Ottawa.

The old Cane and Brown wharfs in this locality, private property, being in a very dilapidated condition, and the proprietors reluctant to undertake the extensive repairs found necessary to accommodate the heavy traffic from Plantagenet and surrounding parishes, the government decided in the spring of 1905, to build a new wharf in this locality. To this effect Brown's wharf, including a 30 feet wide and 250 feet long right of way thereto, was bought and transferred to the Crown for the sum of \$600. Construction was begun in May of the same year.

The structure consists of a headlock, 33 feet wide and 116 feet long at top, formed by a double row of close-faced and stone filled cribs, 133 feet 6 inches long, 10 feet wide and 17 feet clear apart, standing 1 foot above low water, the outside face of outer crib being sunk in 9 feet 6 inches of water. On each row rests a superstructure, 10½ feet high, with an ice-breaker of granolithic concrete, mixed 1-3-5. The outer wall has a width of 6 feet 1½ inches at bottom and 1 foot 9 inches at top, the outside face being inclined 1 in 12 and the inside face 1 in 3. The inner wall is 5 feet and 1 foot 9 inches wide at bottom and top respectively and has faces inclined 1 in 12 and 1 in 5. The front wall is reinforced every 10 feet by 1½-inch vertical iron bars, with plates, inserted in the concrete near the outer face. The top of said wall is anchored with the bottom of rear wall by four 1½-inch iron bars 32 feet long. A double slip, each 10 feet wide and at elevations of 3½ and 7 feet from low water, were made in the face. The 3-inch pine flooring rests on a steel structure composed of 24, 20 and 18-inch I-beams with 8-inch connections distanced 3½ feet. The approach, 123½ feet long, is of stone 18 feet wide at top with sides of large rubble stones inclined 1 in 7.

Materials consisting in stone, lumber, sand, iron bars and steel span, were bought and work commenced in May, 1905. At the end of June following, about four-fifths of the stone approach were completed with an expenditure of \$5,074.76.

SESSIONAL PAPER No. 19

In July and August of the same year, the cribs were built and sunk in place. The concrete superstructure was commenced in September and completed at the end of November, making an expenditure during 1905-6 of \$3,599.63.

The structure was finally completed in August, 1906, at a further cost of \$2,704.92.

WAUBAUSHENE.

Waubauskene and Fesserton are situated on the south shore of the Georgian bay, at the south end of same.

At the last session of parliament, the sum of \$12,000 was appropriated for the dredging of a channel in Matchedash bay, from Waubauskene to Fesserton.

On July 5 last, a contract was let to the Owen Sound Dredge and Construction Co. to do the necessary dredging.

Work was commenced on June 28, and closed for the season on November 17, during which time the dredge removed 90,570 cubic yards.

Total expenditure for fiscal year 1906-7, \$11,253.04.

WENDOVER.

Wendover, in the county of Prescott, is situated on the south shore of River Ottawa, about eight miles from Plantagenet on the Canadian Pacific Railway.

The construction of a wharf at this place was commenced by day labour in September, 1901. The structure consists of the following:—

1. A stone embankment of a length of 160 feet from the shore by a width of 15 feet at top, with sides sloped 1 in 1, and a height of 12 feet.

2. A trestle or pile approach of a length of 342 feet from former to headblock, by a width of 18 feet for 294 feet and a width of 60 feet for the remaining 48 feet adjacent to the headblock.

3. A pile headblock at an angle of 82 degrees and 30 minutes with the approach, of a length of 71 feet by a width of 32 feet, with a close-faced cribwork ice-breaker, 37 by 24 feet at its upstream end.

The wharf at its outer face has a height of 30 feet, stands in 10 feet at low water and is 3 feet above high water level. There is a floor, 34 feet long by the width of the wharf adjacent to the ice-breaker and 8 feet above low water level, with a slip, 38 feet long and 11 feet wide, sloping 1 in 5. A storehouse and waiting room, 20 by 36 feet, is erected on the approach near the eastern side of slip. Three clusters of piles, 30 in each and well bolted together, are placed at equal distances between wharf and shore, about 200 feet upstream of structure, to protect it against the ice. The wharf, though not completed, was opened to traffic in June, 1902. Expenditure, 1901-2, \$6,502.22.

During the fiscal 1902-3, the sum of \$3,083.17 was expended in building the pile ice-breaker and one of the clusters of piles mentioned above, in bracing the pile approach and in raising the stone embankment.

The wharf was completed at the end of fiscal year 1903-4, a further sum of \$1,097.48 being expended. The bracing of the approach was reinforced, the top of the hill leading to the wharf lowered and the stone embankment finished.

In 1904-5, slight damages to the piles by the ice, called for repairs amounting to \$119.62.

During the ice shove of 1906, one of the ice-piers was broken up. A close-faced cribwork ice-breaker measuring 30 feet 5 inches by 19 feet 5 inches at bottom, 7 feet by 15 feet at top, with all sides inclined 1 in 12, except the upstream face which is inclined $1\frac{1}{2}$ in 1, and 16 feet 8 inches high, was substituted. Minor repairs to the wharf proper and to the shed were also made. Expenditure in 1906-7, \$1,956.23.

WIARTON.

Warton is a prosperous town in the county of Bruce, at the head of Colpoys bay, about thirty-two miles northwest of Owen Sound. It is the terminus of the

7-8 EDWARD VII., A. 1908

Georgian bay and Lake Erie branch of the Grand Trunk Railway. Population about 3,000.

At the last session of parliament the sum of \$5,500 was appropriated for the renewal of the superstructure of breakwater pier, and on July 19, 1906, authority was given to expend, by day labour, the sum of \$1,500, which amount was subsequently increased by \$4,000.

Operations were commenced on August 14 and continued until December 14, 1906, when work closed down for the winter, good progress having been made. Some 290 feet of old superstructure were torn down to 2 feet below L.W.L.; two 10 by 10-inch timbers were then securely fastened to substructure, and on which were placed concrete footing blocks 2 feet 6 inches wide and reaching to low water level. Monolith concrete walls were then constructed 2 feet 6 inches wide at base and 1 foot 6 inches at top, reaching to height of 4 feet 6 inches above L.W.L.

It is the intention to add another 6 inches to this wall, making the height eventually 5 feet above L.W.L. These walls were tied back by 1½-inch iron tie-rods, placed at 20-foot intervals, stone filling was then levelled up in rear of wall, and surface of stone covered with gravel.

The total expenditure during the fiscal year 1906-7 is \$2,907.70.

PROVINCE OF MANITOBA.

MANITOU RAPIDS, WINNIPEG RIVER.

The shoals and obstructions to navigation, at the mouth of the Winnipeg river, were marked out and buoyed, early in the season, and facilitated considerably navigation to Fort Alexander. Arrangements were made for the removal of these buoys at the close of navigation and the replacing of them in the spring.

THE NARROWS, LAKE MANITOBA.

The shoals existing at the Narrows, Lake Manitoba, have been found to be a serious menace to navigation.

There is no existing chart of Lake Manitoba and it would seem advisable to have a hydrographic survey of this lake made, with the information gained properly charted and a few lighthouses established. Arrangements have been made whereby this department maintains the buoying of the channel at the Narrows.

SELKIRK.

During the months of January, February and March the extension of the Selkirk wharf was proceeded with and completed. This extension is 222 in length and fills in the gap left between the two former wharfs, giving a continuous frontage now of 952 feet.

The construction consists of pile bents spaced 4-foot centres and close sheath-piling in front, the whole being filled with stone. The cost of this work has been \$3,784.85 or \$17.05 per lineal foot of frontage.

Of the above sum \$480.20 represents the cost of round piling which were already on the ground and charged up against a former appropriation for this work, making a total charge against this work for the past year, \$3,304.55. Some earth filling behind the new extension remains to be done.

During the past season a survey of the river frontage was made, and an agreement drawn up with the Dominion Fish Company whereby the latter convey a strip of land opposite the present wharf extension free of consideration.

SESSIONAL PAPER No. 19

ST. ANDREW'S RAPIDS LOCK AND DAM.

At an early period during the last year it was decided upon to resume the construction of the St. Andrew's lock and dam, and for this purpose new plans and specifications were prepared.

Changes in the general form and dimensions of the permanent and movable dam were necessitated, owing to the increase of the high water level observed during the 1904 freshet.

Modifications and changes in the general design of the lock and entrance piers were also effected. The above changes have not affected the usefulness of the work done under the former contract.

The plans and specifications were completed on August 1, tenders immediately advertised and called for on September 10.

The contract for this work was awarded on October 11, 1906.

Previous to the awarding of this contract, it was thought advisable to have some work done by day labour, a force of men and teams was put on raising banks at lower end of lock pit, gathering plant and material left by former contractors, and unwatering the lock pit. This work was started on August 14, and discontinued on October 24. The expenditure on this work was \$5,049.06.

Since taking over this work, on October 23, 1906, the contractors have devoted their energy to a preparation for an early start on actual construction of the lock, and at the date of writing have everything in readiness.

During the winter and spring, a total quantity of 11,200 cubic yards of sand and gravel was hauled to the site of the works, and 2,100 cubic yards of earth was removed from the lock pit. A small quantity of rock was also removed from the lock pit. Work was also done on the building of a cement shed, overhauling and repairing cableway and erecting mixing plant.

During the past winter, valuable information has been obtained in connection with the St. Andrews work in particular, and the Red river generally. A complete hydrographic survey of the river, from St. Andrews to Selkirk, has been made, giving depths of water and elevations of rock surface obtained with Perce test boring machine. Levels have been carried up the river, as far as Winnipeg, and down the river to Selkirk, and series of permanent bench marks and water gauges have been established. It is the intention to connect all the gauges on Lake Winnipeg, Red and Assiniboine rivers, and refer same to one datum plane. A gauging station has also been established on the river, above the site of the work, and the necessary data is being obtained for the determining of the discharge curve of the river.

NORTHWEST TERRITORIES.

CRAVEN DAM.

The work of reconstructing the Craven Dam, in order to regulate the flow of Last Mountain lake, has been proceeded with. A great deal of damage had been done, particularly on the north side where part of the side hill had been washed away, also the middle part of the dam, where a small island existed. It was found that by using as much of the old dam material as possible, the work of reconstruction could be done at a lower figure by rebuilding below the small island.

It is composed of seventeen pile bents; each bent, excepting the outside one, contains five piles. The whole front of the dam, to high water mark on both sides of same, was double sheath piled with 4-inch tongue and groove sheath piling. The dam was covered over with 4-inch fir material, and a fish slide built on the south side of the south waste weir. The elevation of the old dam was maintained, but an overhead service bridge was built, intended to be used in connection with stop logs that might be put in, if it is thought advisable to raise the level of the water to a higher elevation than the present one.

7-8 EDWARD VII., A. 1908

I might say that owing to the courtesy of Mr. F. G. Robinson, Deputy Minister of Public Works, province of Saskatchewan, a great saving was effected in the prosecution of this work, in being allowed to use one of their pile drivers, fully equipped, as well as the foreman and gang of men who had been employed at such work all summer.

The expenses incurred during the last fiscal year amounted to \$2,482.31.

NORTH SASKATCHEWAN (PRINCE ALBERT).

The work of removing boulders from the bed of the North Saskatchewan at Prince Albert was started. It was thought advisable to equip a derrick that could be used either on the ice or a scow for the purpose aforesaid. The derrick material, boulder tongs, &c., were also ordered and delivered; the mast, stiff legs and boom were framed in readiness to be put together. No actual work was, however, done, owing to the sickness of our foreman.

Total expenditure during 1906-7, \$551.69.

BRITISH COLUMBIA.

CAMPBELL RIVER WHARF.

During the past year the Campbell river wharf has been practically completed; some dolphins and protecting piles at the corners being required to make it secure, and for which a small expenditure will be asked.

The details of the expenditure are :—

Wages...	\$ 1,079 39
Material.....	1,034 19
Tug-hire.....	755 00
Fuel.....	28 00
Team-hire.....	15 00
Contingencies.....	6 20
	<hr/>
	\$2,917 78

COLUMBIA RIVER ABOVE GOLDEN.

The work on this portion of the Columbia river is covered by the services of the tug *Muskrat* in her usual work of extending dams, closing mouths of sloughs, &c., and keeping the channel clear of snags, and the banks free from overhanging trees or sweepers.

The expenditure has been as follows :—

Wages...	\$ 1,314 33
Material.....	636 12
Provisions..	489 01
Contingencies.....	522 65
	<hr/>
Total.....	\$ 2,484 26

COLUMBIA RIVER BELOW GOLDEN.

The only expenditure in connection with this service was for wages of caretaker of warehouse and a small account for hardware, as follows :—

Wages...	\$ 20 00
Material.....	46 42
	<hr/>
Total.....	\$ 66 42

SESSIONAL PAPER No. 19

COLUMBIA RIVER AT REVELSTOKE.

Under this heading is included the expenditure on the dam across the Columbia river at Revelstoke and the excavation of a channel for the diversion of the river at this point, for the purpose of preventing the erosion of the bank below the site of the dam and the destruction of valuable city property. The old method of protection by mat-tressing was found defective and has been abandoned in favour of the present more permanent and effective scheme, which, thus far, has fully met our expectations and is a work of no mean magnitude. Unfortunately an accident occurred on April 14 last by which a break of some 60 feet was made in an unfinished portion of the dam by an immense field of ice loosened above by an unusual rise in the water. The piles on either side of the break were forced out of line at the top. With the exception of the actual break which has not developed into any more serious trouble, the rest of the dam has been made secure.

The services of the dredge *Nakusp* are necessarily included in the expenditure under the above head, the details of which are as follows:—

Wages.....	\$16,561 54	
Material.....	6,616 67	
Provisions.....	1,405 19	
Fuel.....	407 11	
Team-hire.....	1,360 75	
Tug-hire	160 00	
Contingencies.....	79 55	
		<hr/>
		\$25,984 21
Dredge <i>Nakusp</i> —		
Wages.....	\$ 469 64	
Material.....	44 70	
Provisions.....	222 21	
Fuel.....	150 50	
Team-hire	36 00	
Contingencies.....	12 10	
		<hr/>
		939 15
Total.....		<hr/>
		\$26,923 36

COLUMBIA RIVER AT ARROWHEAD.

Before moving the dredge *Nakusp* to Revelstoke, she was undergoing repairs at Arrowhead, putting in new dipper arm, &c., and her crew were engaged in completing, as far as built, the wing dam at that point.

The expenditure was as follows:—

Wages.....	\$450 00
Material.....	45 82
Provisions.....	26 83
	<hr/>
Total.....	\$522 65

COQUITLAM RIVER.

The work on this river consists of keeping the bars, &c., free from snags and stranded logs in the interests of the lumber industry.

The details of the expenditure are as follows:—

Wages.....	\$212 08
Material.....	741 70
	<hr/>
Total.....	\$953 78

7-8 EDWARD VII., A. 1908

COURTNEY RIVER (COMOX).

This work consists of a pile or crib protection to the bank of the river and for the further protection of the road forming a dike to a large and valuable area of the valley. The gaps of last year have now been closed, making the work continuous. Owing to the stone filling in rear of planking not having been completed, some 25 feet of this protection was destroyed by the impact of the logs brought down during high water. This break has been repaired and a further appropriation of \$1,500 in next year's estimates is required to properly finish the work.

The expenditure has been as follows:—

Wages.. . . .	\$1,337 60
Material.. . . .	1,518 65
Team-hire.. . . .	132 00
Boat-hire.. . . .	7 00
Total.. . . .	<u>\$2,995 25</u>

FRASER RIVER.

The work on this important service has consisted in making good the settlement in our dams across the Nicomen during the months of October and November; reinforcing and raising the dam at the sand heads with stone brought from the Pitt river quarries; repairs to mattrassing at Garry point, and the commencement of a groyne or wing dam at Annieville bar, extending from Annacis island towards the channel some 530 feet. The result of this work will be noted with much interest, for, without some such assistance or auxiliary work, it will be a very difficult matter to maintain a deep water channel through this bar.

The past winter was of almost unprecedented severity on this coast, and for the month of January the Fraser river was entirely closed by ice from New Westminster to the gulf and all work on the river was suspended.

The details of the expenditure are as follows:—

Superintendence.. . . .	\$ 1,131 45
Wages.. . . .	2,888 65
Material.. . . .	15,328 88
Tug-hire.. . . .	120 00
Tide gauges.. . . .	371 55
Provisions.. . . .	124 15
Contingencies.. . . .	19 45
Total.. . . .	<u>\$19,984 13</u>

FRASER RIVER BETWEEN SODA CREEK AND QUESNELLE.

This work consisted of removing some rocks obstructing the channel between the above points. The work was successfully done during the fall months of 1906.

The expenditure was as follows:—

Wages.. . . .	\$1,337 60
Material.. . . .	1,518 65
Team-hire.. . . .	132 00
Boat-hire.. . . .	7 00
Total.. . . .	<u>\$2,995 25</u>

KOOTENAY RIVER.

Removal of snags, &c., between Kootenay landing and international boundary (as distinguished from Kootenay river at Proctor).

SESSIONAL PAPER No. 19

This work consisted of the clearing of the river at the south end of Kootenay lake, between the points above mentioned, of snags, and the removal of sweepers or over-hanging trees from the banks. Foreman in charge reports the river as now clear.

The expenditure was as follows:—

Wages.. . . .	\$1,184 50
Materials.. . . .	233 25
Provisions.. . . .	307 33
Boat-hire.. . . .	145 00
Transportation.. . . .	67 90
Total.. . . .	<u>\$1,937 98</u>

NORTH THOMPSON RIVER.

The work on the North Thompson river has been confined to removing a portion of the dam at Hefley's rapids, for the purpose of widening the 80-feet opening and so lessening the velocity of the current. This dam has answered its purpose by scouring out the channel, and the river is now navigable as far as possible at this point.

The details of the expenditure are:—

Wages.. . . .	\$481 00
Material.. . . .	42 00..
Provisions.. . . .	206 87
Team-hire.. . . .	145 00
Total.. . . .	<u>\$874 87</u>

SOUTH THOMPSON RIVER.

The expenditure on this service includes the cost of a survey to determine the amount of work required and the construction of a small dredge to do it, the purchase of boiler and machinery, and contingent expenses.

The following are the details:—

Wages.. . . .	\$ 158 50
Material.. . . .	1,731 74
Provisions.. . . .	9 95
Tug-hire.. . . .	50 00
Engines and boiler.. . . .	2,990 00
Total.. . . .	<u>\$4,940 19</u>

LADYSMITH WHARF.

As the right of way for the approach to this wharf is still in abeyance, no expenditure has been made further than the payment of a small account for hardware, as follows:—

Material.. . . .	\$3 85
------------------	--------

SIDNEY ISLAND WHARF.

This wharf was built on the application of the residents of the island for facility in receiving and shipping goods and produce.

The expenditure was as follows:—

Wages.. . . .	\$ 686 56
Material.. . . .	859 09
Tug-hire.. . . .	415 00
Contingencies.. . . .	58 05
Total.. . . .	<u>\$ 1,998 70</u>

7-8 EDWARD VII., A. 1908

SKEENA RIVER.

The work on this service was covered by the operations of the Snag Scow until August 31, when she was withdrawn and laid up and the work in connection with the improvements to navigation below Hazelton by the removal of boulders from channel. In this latter work we made a departure from former methods—and to the advantage of the work—by chartering the steamer *Pheasant* by which means we secured quarters and board for our men, and the advantage of the captain's knowledge of what boulders could be moved to the best advantage which enabled us to avoid any unnecessary work. We had also much better means of doing the work than from canoes and establishing a camp for the purpose as formerly. The time covered by the contract was eleven days at \$65 per day, the board of men being an additional charge. In this time eleven large boulders were removed from the channel at different points. Unfortunately the steamer was wrecked at Beaver dam by getting out of control in the very strong current and hanging up on some rocks below, which, I am afraid, has damaged her hull beyond repair but for which we are in no way responsible. Our men and the crew of the steamer had to come down by canoe.

The powder had to be sent up by the Indians in a canoe, as no steamer with passengers will carry it. These men were retained during the work which, for the time taken, was in every way satisfactory and more effective and economical than our former methods.

The expenditure is as follows :—

Wages.....	\$ 1,570 50
Material....	604 57
Provisions..	318 85
Fuel.....	80 00
Steamer hire and board of men....	562 50
Canoe-hire....	31 50
Contingencies....	139 85
Total....	\$ 3,607 77

WILLIAMS HEAD QUARANTINE STATION.

The work on this service in the past fiscal year has consisted of repairs to wharf; the purchase and laying of some 8,000 lineal feet of 4-inch wire wound wooden pipe in connection with the water supply and general maintenance.

The expenditure has been as follows :—

Wages.....	\$ 3,802 64
Material....	3,622 97
Total..	\$ 7,425 61

DREDGING OPERATIONS.

During the fiscal year 1906-7, nine months ending March 31, 1907, dredging was done in the following places :—

PROVINCE OF NOVA SCOTIA.

Intercolonial Railway wharf, Pictou county.
Intercolonial Coal Company pier, Cape Breton county.
Mabou channel and harbour, Inverness county.
North Pond, Red islands, Richmond county.
Pictou bar, entrance to harbour, Pictou county.
Port Hood coal pier, Inverness county.
Whitney pier, Sydney harbour, Cape Breton county.
Windsor, government pier, Avon river, Hants county.
Yarmouth Harbour channel, Yarmouth county.

PROVINCE OF NEW BRUNSWICK.

Belyeas wharf, Queen's county.
Campbellton harbour and wharf, Restigouche county.
Cedars wharf, King's county.
Colwell's creek, Washademoak, Queen's county.
Evandale wharf, King's county.
Hampstead wharf, Queen's county.
Navy Island bar, St. John harbour, St. John county.
Oak Point wharf, King's county.
St. Andrew's harbour, Charlotte county.
Victoria wharf, King's county.

PROVINCE OF PRINCE EDWARD ISLAND.

Falconwood Asylum Wharf channel, Queen's county.
Pownal channel to wharfs, Queen's county.
Railway wharf, Charlottetown harbour, Queen's county.
Victoria, Crapaud Harbour channel, Queen's county.

PROVINCE OF NOVA SCOTIA.

Intercolonial Railway Wharf.—The dredge *St. Lawrence* was engaged from July 28 to August 7 dredging the slip between the two Intercolonial piers at Pictou, N.S., by removing 5,950 cubic yards of mud at a cost of 32·29 cents per cubic yard.

DREDGING AT SYDNEY, CAPE BRETON CO.

Intercolonial Coal and Steel Company Pier.—The dredge *Cape Breton* was engaged from October 9 to 18 and 21 to December 18, dredging at the Intercolonial Steel and Coal Company piers at Sydney, Cape Breton county, removing 14,800 cubic yards mud and stone at a cost of 56·46 cents per cubic yard.

DREDGING AT MABOU, INVERNESS CO.

Mabou.—The dredge *George McKenzie* was engaged from July 1 to September 22 removing 13,896 cubic yards mud, sand, gravel and silt from the entrance over the bar and from the channel inside, and at the new pier at the bridge near the Mabou village, at a cost of 38·31 cents per cubic yard.

7-8 EDWARD VII., A. 1908

DREDGING AT NORTH POND, RICHMOND CO.

North Pond, Red Islands.—The dredge *Cape Breton* was engaged from July 1 to October 8 removing 21,900 cubic yards sand, mud and gravel in making an entrance into North Pond, at a cost of 55.72 cents per cubic yard.

DREDGING AT PICTOU BAR, PICTOU COUNTY.

Pictou Bar.—The dredge *W. S. Fielding* was engaged from September 1 to December 4 removing 70,900 cubic yards sand, gravel and mud at a cost of 19.16 cents per cubic yard.

DREDGING AT PORT HOOD, INVERNESS COUNTY.

Port Hood Coal Piers.—The dredge *George McKenzie* was engaged from September 23 to October 31 removing 5,175 cubic yards sand at a cost of 98.53 cents per cubic yard.

DREDGING AT SYDNEY HARBOUR, CAPE BRETON COUNTY.

Whitney Pier.—The dredge *Cape Breton* was engaged October 19 and 20, removing 600 cubic yards mud, at a cost of 46.85 cents per cubic yard.

DREDGING AT WINDSOR, HANTS COUNTY.

Windsor Government Pier.—The dredge *Canada* was engaged from July 1 to November 5 removing 7,830 cubic yards mud at a cost of \$1.12.23 cents per cubic yard.

DREDGING AT YARMOUTH, YARMOUTH COUNTY.

Yarmouth.—The dredge *Canada* was engaged in Yarmouth harbour from December 20 to January 5, removing 2,020 cubic yards mud at a cost of 61.82 cents per cubic yard; also the dredge *W. S. Fielding* operated there from July 1 to August 3, removing 33,250 cubic yards at a cost of 13.47 cents per cubic yard.

PROVINCE OF NEW BRUNSWICK.

DREDGING AT BELYEAS WHARF, QUEEN'S COUNTY.

Belyeas Wharf.—The dredge *New Brunswick* was engaged from July 19 to 27, removing 1,865 cubic yards of mud and silt at a cost of 32.66 cents per cubic yard.

DREDGING AT CAMPBELLTON, RESTIGOUCHE COUNTY.

Campbellton Harbour.—The dredge *St. Lawrence* was engaged from August 8 to 14, and August 19 to October 4, and October 6 to November 25, removing 18,375 cubic yards of mud, sand, gravel, logs, timber and old rigging at a cost of 56.35 cents per cubic yard. Several days, by instructions, the dredge was engaged in finding, lifting and replacing the buoy, mooring chain and anchor for Marine and Fisheries Department at Oak Bay, Restigouche river, Bonaventure county, province of Quebec.

DREDGING AT THE CEDARS, KING'S COUNTY.

Cedars Wharf.—The dredge *New Brunswick* was engaged July 1 to 11 removing 3,950 cubic yards of mud and silt from in front the wharf at a cost of 16.74 cents per cubic yard.

DREDGING AT COLWELL'S CREEK, WASHADEMOAK, QUEEN'S COUNTY.

Colwell's Creek Wharf.—The dredge *New Brunswick* was engaged from July 28 to September 8 removing 8,290 cubic yards of mud and silt from the channel and wharf at a cost of 30.85 cents per cubic yard.

SESSIONAL PAPER No. 19

DREDGING AT EVANDALE WHARF, KING'S COUNTY.

Evandale Wharf.—The dredge *New Brunswick* was engaged on July 12 removing 75 cubic yards hard-pan and silt in front of this wharf at a cost of 89·57 cents per cubic yard.

DREDGING AT HAMPSTEAD WHARF, QUEEN'S COUNTY.

Hampstead Wharf.—The dredge *New Brunswick* was employed from July 13 to 18 removing 1,200 cubic yards of mud and silt from in front of this wharf at a cost of 33·44 cents per cubic yard.

DREDGING AT ST. JOHN HARBOUR, ST. JOHN COUNTY.

Navy Island Bar.—The dredge *New Dominion* was engaged from January 23 to March 31, removing 9,375 cubic yards of mud from the tail of Navy Island bar at a cost of 30·51 cents per cubic yard.

DREDGING AT OAK POINT, KING'S COUNTY.

Oak Point Wharf.—The dredge *New Brunswick* was engaged from September 9 to October 8, removing 12,000 cubic yards mud, silt and logs at a cost of 16·35 cents per cubic yard.

DREDGING AT ST. ANDREWS, CHARLOTTE COUNTY.

St. Andrews Harbour.—The dredge *New Dominion* was engaged from July 1 to December 11 removing 43,165 cubic yards of mud and boulders, opening a channel through a bar in St. Andrews harbour at a cost of 22·23 cents per cubic yard.

DREDGING AT VICTORIA WHARF, KING'S COUNTY.

Victoria Wharf.—The dredge *New Brunswick* was employed from October 9 to November 23 in removing 21·700 cubic yards of mud, silt and old logs, at a cost of 11·28 cents per cubic yard.

PROVINCE OF PRINCE EDWARD ISLAND.

DREDGING AT FALCONWOOD, QUEEN'S COUNTY.

Falconwood Asylum.—The dredge *Prince Edward* was engaged in opening a channel to Falconwood wharf, East river, Charlottetown, from July 24 to September 4, removing 14,625 cubic yards of mud, at a cost of 26·57 cents per cubic yard.

DREDGING AT POWNAL, QUEEN'S COUNTY.

Pownal Channel and Wharf.—The dredge *Prince Edward* was employed in opening a channel to and at the Pownal wharf from September 20 to November 8, removing 9,855 cubic yards of mud at a cost of 39·00 cents per cubic yard.

DREDGING AT PRINCE EDWARD ISLAND RAILWAY WHARF, QUEEN'S COUNTY.

Railway Wharf, Charlottetown, P.E.I.—The dredge *Prince Edward* was engaged from July 1 to 23 and September 5 to 24, removing 8,645 cubic yards of mud and old timbers, at a cost of 41·88 cents per cubic yard.

DREDGING AT VICTORIA, CRAPAUD, QUEEN'S COUNTY.

Victoria Wharfs and Channel.—The dredge *Montague* was employed from September 6 to November 14, in removing 20,450 cubic yards of sand, silt and stone at a cost of 37·55 cents per cubic yard.

7-8 EDWARD VII., A. 1908

MARITIME PROVINCE—DREDGES.

The Dredge 'St. Lawrence.'

July 1 and 27, inclusive, completing a new end in boiler and one new furnace, also new donkey boiler and other repairs, at Pictou, N.S. July 28 to August 7 dredging at Intercolonial Railway wharf, Pictou, N.S., removing 5,950 cubic yards mud, at a cost of 32.29 cents per cubic yard, and completing work in railway slip. August 8 and 14, inclusive, making ready to leave and passage to Campbellton, Restigouche county, N.B. August 15 and 18, inclusive, at Oak bay, Bonaventure county, province of Quebec, grappling for Marine and Fisheries buoy chain and anchor, but failed in finding them. August 19 to October 4, and October 6 to 25, at Campbellton, Restigouche county, N.B., dredging berths at government wharf, removing 18,375 cubic yards of mud, silt, old logs, and wire rigging, at a cost of 56.35 cents per cubic yard. The chain of buckets were twice thrown off the ladder. On September 11 a diver was sent, and by September 21 buckets were disconnected, replaced on ladder and dredge resumed and continued work until October 12, when a log got in the buckets and again put them off the ladder, and broke the hoisting chain. Sent diver and by 17th had buckets replaced, repairs made and resumed work. While grappling on August 16, grappled a ship's anchor weighting about 4,500 lbs., with about fifty fathom chain, which was landed on government wharf at Campbellton, and remained there until dredge left, without being claimed. On leaving, the dredge took them to Pictou, N.S., and landed them on the Harbour Commissioner's wharf there. I now ask your instructions as to what disposal will be made of them.

On October 5, having a diver, another attempt was made to grapple the anchor and chain at Oak bay for Marine and Fisheries Department, which proved successful, when the buoy was attached and all placed in position again, the harbour master being present, placing them.

On October 26, orders were given, moorings lifted, coal and provisions taken on board, and on the 30th dredge left for Pictou, N.S.; 31st arrived at Point du Chêne to land the mate for medical treatment. November 1 wind northeast, blowing a gale, with rain. Mate sick, and left for Pictou, N.S. 2nd, 3rd, 4th, 5th, 6th, 7th, 8th and 9th, wind and weather the same. Gave assistance with wharf crib while at Point du Chêne. 10th, wind north, dredge left for Pictou. At 8 a.m., commenced to snow, went into Summerside. 11th, wind northeast, with snow and sleet; storm signals up. 12th, wind northeast with thick snowstorm. 13th, wind southwest, strong breeze, left Summerside at 7 a.m., arrived at Pictou Bar at 7.30 p.m., and anchored outside, fearing to foul dredge *W. S. Fielding's* moorings on the bar, not having seen them in daylight. 14th, arrived and anchored off the marine slip at 8 a.m., and made ready to go on slip. Mate returned on board. 15th, dredge was hauled on slip, when dredge crew with Messrs. Yorston's slip men begun to clear and paint hull, repair hopper and well doors and replace an angle iron broken in the ladder well, all of which was completed and dredge launched on November 24, when it was taken to the commissioner's wharf and landed anchor and chain. 26th, making ready to place moorings to begin dredging, when it was found the dredge was making water, owing to the boiler-makers who repaired the angle iron in ladder well not having made a good job in the rivetting, and after five days trying to stop the leak had to go on slip again on 30th for further repairs. December 3, placing mooring, blowing strong, could not get all the moorings placed, and too much ice to dredge. Crew employed chipping rust and painting. 11th, taking off buckets. 24th, crew paid off. 29th, ice in harbour breaking up. 31st, repairs under way. Captain looking after dredge. Engineer and two firemen doing repairs on engines and boilers. Some work sent to machine shop.

During the winter, part of main deck was renewed. New chains and block for hoisting dredging ladder, were put on. Boiler, engines and dredging gear overhauled and put in working order. A side shoot placed on dredge has been proved to work satisfactory. And as soon as the steel barges now building are completed, they will be used

SESSIONAL PAPER No. 19

with this dredge on the work at Campbellton, N.B., a tug removing the barges to deposit spoil, thus enabling the dredge to work continuously. This dredge had all repairs and new shoot completed and ready for work by March 31, but ice prevented doing so.

The Dredge 'Canada.'

From July 1 to November 5, 1906, this dredge was operating on the River Avon, in front of the government pier at Windsor, N.S., removing 7,830 cubic yards mud and silt at a cost of \$1.12·23 cents per cubic yard. The dredge having to be aground twice every twenty-four hours, it was found that the shoe connecting stern post and rudder post was broken; that several plates in the bottom required repairs; that a new top tumbler was required; shoot required to be renewed and a side shoot for barges needed, and at the latter date under orders the dredge was made ready by the 8th to leave for Yarmouth to go on marine slip for repairs above named and to clean and paint hull. Owing to unfavourable weather the dredge did not leave until 7 a.m. of the 10th, and arrived at Spencer's island by 11.30 a.m., where it was storm-bound until the 15th, when it sailed at 8 a.m. and came to anchor at Digby at 6 p.m. 16th, sailed at 11 a.m., returned at 12.10 p.m., owing to heavy sea and rough in the bay. 17th, detained by gale from northwest. 18th, sailed from Digby at 11 a.m., arrived at Westport at 4.30 p.m. 19th, too rough to proceed. 20th, sailed from Westport at 5 a.m.; arrived at Yarmouth at 10 a.m. Landed spare gear. 21st, took off ladder well doors and landed them at D. A. railway wharf. 22nd and 23rd, blew down boiler and cleaning it. 24th, 26th and 27th, waiting to get on slip; crew chipping and painting ladder. 28th, placed dredge on marine slip at 8 a.m., and completed hauling at 12.30 p.m. Detained by slip rollers getting out of place. Crew immediately began scraping and cleaning hull for painting. Several machinists assisting engineer at repairs to hopper doors, rudder, after shoe, stern and rudder posts and plates in dredging bottom, all of which is being continued, and on December 19 above named work completed, dredge came off slip at noon, and took in water and coal. 20th, laid moorings. 21st, blowing and not fit weather to dredge or go outside to deposit spoil. 22nd, dredged two loads, rove tackles to haul out several spiles that were in dredge's way. 24th, dredged two loads; took in coal and water. 25th, Christmas. 26th, hauled one spile. 27th, hauled one spile, and made ready to haul a second. 28th, hauled two spiles and dredged three loads. 31st, took in coal. From December 20 to January 5, hauled four spiles and dredged 2,020, cubic yards at a cost of 61·82 cents per cubic yard. Further repairs for top tumbler, side shoots and steel mitre wheels are being proceeded with, and March 30 new top tumbler, pump and side shoot were completed, and I saw one steel barge loaded by the new side shoot and discharged before I left for home, the matter of shoot proving successful, and when the second barge is received, barges and shoot will be complete. The *Canada* would continue to work at Yarmouth until April 15, and then leave for Windsor.

The Dredge 'New Dominion.'

On July 1, 1906, this dredge was engaged at St. Andrew's, in the county of Charlotte, N.B., dredging a western channel, 150 feet wide and 6 feet deep at low water through the harbour bar, and by December 11 had removed 43,165 cubic yards clay, mud and boulders at a cost of 22·23 cents per cubic yard. On July 5 and 6, dredge detained by tug being disabled. July 9, casting on crane broken; tug took casting to St. John, had new casting made, and dredge was ready for work on the 14th. Resumed dredging Monday, 16th. This dredging is all tide work. October 13, one anchor post broken; took broken post out and put in new post, which was on hand ready for use. The dredge was unable to work a number of days in November, owing to unfavourable weather. On December 3, the fresh water service was all frozen up. Orders were received, and work closed. Dredge dismantled and made ready to leave. On the 12th the dredge left St. Andrew's in tow of tugs *Lord Kilchener* and *Lord*

7-8 EDWARD VII., A. 1908

Roberts, and arrived in St. John harbour 7 p.m. Work repairing dredge and scows began immediately, that they may be ready to do work at tail of Navy island, St. John harbour. Sent bucket to foundry for repair, and repairing scows. 17th, shipped in place the two forward anchor posts. 18th, shipped one after anchor post. 19th, shipped the second after post. December 31, repairs will be completed in a few days to proceed with work at Navy island bar, St. John harbour. Repairs being completed and orders received, dredging was commenced on Navy island bar, St. John harbour, January 28, and by March 31, 9,375 cubic yards of mud had been removed, at a cost of 30·51 cents per cubic yard.

The Dredge 'Prince Edward.'

From July 1 to 23, and September 5 to 24, 1906, this dredge was continuing operations at the Prince Edward Island Railway wharf, Charlottetown, Prince Edward Island, removing 8,685 cubic yards mud, at a cost of 41·88 cents per cubic yard, preparing foundations for new wharfs, and from July 24 to September 4 opening a channel from the East river into the Falconwood Hospital wharf, where 14,625 cubic yards were removed, at a cost of 26·57 cents per cubic yard, completing the work.

From September 25 until November 8 the dredge was engaged at Pownal, deepening the channel from Pownal bay into the Pownal wharf by removing 9,855 cubic yards mud and silt, at a cost of 39 cents per cubic yard. This work is not completed. Nearly all of the above work was tide work, and not full time for working. After November 3 weather was unfit for work, and on the 9th dredge was ordered to dismantle and prepare to leave for Charlottetown, and on the 14th, all being ready, the tugs *Brant* and *F. M. Batt* removed the plant to Charlottetown, and hauled three scows and water boat out for repairs. Dredge moored at Ferry wharf, and stored all spare gear. Five of the crew left for their homes on December 6. Engineer and fireman making engine, boiler and machinery ready for inspection. Cook and watchman left for their homes on the 15th. Engineer making repairs, which were completed and dredge ready for work by March 30.

The Dredge 'George McKenzie.'

My last report left this dredge working at Mabou, Inverness county, Nova Scotia, where it continued work from July 1 until September 22, improving the depth of water to 16 feet on the outer bar, when wind and weather permitted, and at other times on the channel inside, where a large amount of filling in had taken place, and at and near the bridge at the village, removing 13,896 cubic yards clay, sand and silt, at a cost of 38·31 cents per cubic yard. The dredge worked at Port Hood coal piers from September 23 until October 31, improving the loading berths at the coal piers by removing 5,175 cubic yards sand, at a cost of 98·53 cents per cubic yard. The work performed at Port Hood will fill in again very rapidly. Owing to the crane boom breaking and while being replaced by a new boom, several days time (from August 14 to 22) were lost, and much time was lost on account of weather at Mabou. The dredge also lost ten days making ready and waiting for suitable weather to transfer plant from Mabou to Port Hood, September 19 to 28. Weather only permitted working part of fourteen days from September 29 to end of October. Weather proving worse, in November orders were given and dredge and plant were dismantled and prepared to leave for Pictou. In the storm, three vessels went ashore not far from the dredge and some of them were a total loss. On November 10 the dredge left for Pictou in tow of tugs *Goliath* and *Rona* and arrived on the 11th. On the 12th, landed gear on Market wharf. 19th, went on marine slip, and cleaning and stripping old zinc off dredge was at once commenced. By December 5 the dredge's hull was recovered with new No. 14 and 12 zinc, and dredge was ready to come off slip, but ice making, the slip people declined to put the slip down to launch the dredge, and it will

SESSIONAL PAPER No. 19

remain on the slip for the winter. The engineer is now proceeding with repairs and renewals. The crew paid off on December 13. While this dredge was ready for work on March 30, owing to heavy ice under and around the marine slip it could not be launched until May 2, and then the draw in the bridge over East river being out of repair the dredge was ordered to clean up some work for the Acadia Coal Co., which the dredge *St. Lawrence* was unable to complete.

The Dredge 'Cape Breton.'

On July 1, this dredge was at St. Peter's canal, waiting orders from Ottawa. The following orders were received and given to Captain Peter DeCoste:—'Please send dredge *Cape Breton* to Red islands to excavate channel fifteen feet deep and sixty feet wide.' On July 1, the dredge left St. Peter's canal and arrived at Johnston's harbour. July 2, was Dominion day and kept by Captain DeCoste and crew. 3rd to 6th preparing dredge for work. 7th, towed dredge from Johnston's harbour to Red islands, laid out work and dredged one scow load. 9th, detained by bucket mouth broken and towing plant to and from Johnston's harbour; dredged three scow loads. 10th, detained by changing buckets and taking water. 11th, dredged one scow load, then detained with bucket latch not working right. 16th, dredged four scow loads; dispensed with services tug *Weatherspoon*; tug *Nelson* taken on. 17th, dredged five scow loads. 18th, repairing scow chain and buckets. 19th, dredged two scow loads and weather unfavourable for dredging. 20th, coaled dredge; weather unfavourable for dredging. 21st, dredged four scows; buckets working bad. 22nd, Sunday. 23rd, unable to use scows, deposited spoil on banks; detained by weather; worked eight hours. 24th, compressor and bucket working bad; dredged five hours. 25th, detained by high wind. 26th, detained by high wind and coaling. 27th and 28th, detained by unfavourable weather. 29th, Sunday. 30th, took bucket off and repaired it. 31st, unfavourable wind and rough sea. August 1, dredged nine hours. 2nd, dredged eight hours; 3rd, dredged eight hours; 4th, dredged six hours, backing chain yoke broken. 6th, coaling, taking water and repairing backing chain yoke. 7th, towed plant from Johnston's harbour to Red islands, weather unfit to work and returned to Johnston's harbour for safety. 8th, dredged for seven hours. At 5 p.m., while making head move, crane unstepped at deck, doing considerable damage and injuring the cranesman. Secured crane and took up bucket with tackles, and towed to Johnston's harbour for shelter, and reported to Superintendent. 9th, on receipt of Captain's report, Mr. James Wright, Inspector, was sent to the dredge without delay to have damage made right and to get dredge to work. 9th and 10th, crew preparing to take bucket off; Captain absent for medical treatment. 11th, Mr. Wright, Inspector, arrived and after consulting with Captain DeCoste the dredge was made ready and towed to St. Peter's to reshup crane. Engineer to Sydney for repair of broken parts. 12th, Sunday. 13th to 18th, putting crane and swinging gear in place and towed dredge back to Johnston's harbour. 17th, tug *Nelson* taken on at 3.30 p.m. 19th, Sunday. 20th, fitting up pipes and friction gear. 21st, while putting up bucket handle, chain sling broke, and let bucket handle fall, breaking one of the bucket and arm braces. 22nd, Engineer to foundry getting brace repaired; crew putting bucket and arm up and compressor on. 23rd, waiting engineer's return with repaired machinery. Scow chains were put in order. 24th, engineer returned, and repairs made. 25th, detained by high wind, and sea; men employed in getting coal. 26th, Sunday. 27th, dredged nine hours, when haul-back chain broke. 28th, detained by weather. 29th, dredged eight hours. 30th, dredged eight hours. 31st, dredged seven hours.

September 1, detained by unfavourable weather; putting on new hoisting cable. 2nd, Sunday. 3rd, detained by weather, changing buckets. 4th, detained by weather; coaling plant. 5th, detained by weather, sent tug to St. Peter's for coal. 6th, dredged five hours, detained by weather. 7th, detained by weather, repairing compressor. 8th, dredged three hours; spoon handle knee to bucket broke. 9th, Sunday. Engineer with

7-8 EDWARD VII., A. 1908

tug *Nelson* left for Sydney to get repairs to broken knee. 10th, filled bunkers and changed bow anchor. 11th, working at bucket; sent tug for coal. 12th, working at scows and anchors while waiting. Tug *Goliath* returned disabled. 13th, cleaning up while waiting. 14th, engineer returned at noon; fitting repaired arm. 15th, connecting bucket and knee to spoon handle. 16th, Sunday. 17th, dredged eight hours. 18th, too rough to dredge. 19th, dredged six hours; weather detained work. 20th, towed plant to work; dredged eight hours. 21st, dredged eight hours. 22nd, detained by weather; repairing spud friction. 23rd, Sunday. 24th, detained by weather; took in water. 25th, detained by unfavourable weather. 26th, dredged nine hours and repaired backing chain. 27th, dredged seven hours; cut through into North Pond, and at 4 p.m. bottom cable jammed between bottom sheave in foot of anchor post. 28th, taking anchor post down to make repairs. 29th, making repairs and putting new cable on. 30th, Sunday.

October 1, placing new cable on. 2nd, placing new cable and putting spud post in place. 3rd, received instructions to prepare to leave; removed plant to Johnston's harbour and took in coal. 4th, dismantling plant and making tow ready to leave, and 5th and 6th awaiting further instructions. 7th, Sunday. 8th, waiting orders. 9th, at 10 a.m. received orders to proceed to Sydney. 10th, strong gale; waiting for favourable weather. 11th, at 10 a.m. wind moderating, left with dredge and arrived at Port Bevis at 6 p.m. On the 12th, at 5 p.m., returned for scows and returned to Port Bevis with them at 6 p.m. 13th, at 5 a.m. left with dredge and one scow and arrived at Sydney at 5.31 p.m. 14th, Sunday. 15th, tugs went back for scow and returned with them at 6.30 p.m.; crew were landing spare gear and mantling dredge. 16th, crew landing spare gear and mantling dredge. 17th, mantling plant and preparing for dredging. 18th, preparing scows and storing material. 19th, at noon took up work at Whitney pier; dredged one scow. 20th, dredged two scow loads and made ready to clean boilers. 21st, Sunday. 22nd, cleaning boiler and coaling. 23rd, dredging five scow loads, and met logs and boulders. 24th, dredged five scows; still lifting logs. 25th, dredged five scows; still lifting logs and boulders. 26th and 27th, dredged two scows each; pump rod broken and repaired and repairing steam pipes in connection with compressor. 28th, Sunday. 29th, dredged two scows and repaired chain. 30th, dredged three scow loads and engaged receiving new spoon handle. 31st, dredged four scow loads and repaired scow chains.

November 1st, dredged three scows; detained with boulders. 2nd, dredged two scows. 3rd, dredged one scow; repairing chain. 4th, Sunday. 5th, detained by weather; renewed donkey stack. 6th, dredged four scows, and received new arm knees from machine shop. 7th to 12th, detained by compressor plate breaking, and repaired it and backing chain wheel, and anchor sheave in post. 13th, dredged four scow loads and detained with boulders and heavy rock in bucket. 14th, dredged six scows and detained with boulders in bucket. 15th, dredged three scows; broke bucket tooth. 16th and 17th, repairing bucket tooth. 18th, Sunday. 19th, 20th, 21st and 22nd, completed repairs to bucket tooth. 23rd, spud bottom cable crosshead broken; dismantling and repairing. 24th, at 8 a.m. took up work, when arm brace connecting bucket bent, and lug on bucket broken; also after spud wheel broken. 25th, Sunday. 26th and 30th, repairing and crew employed scaling inside barges.

December 1 to 5, repairing brace, lug on bucket and wheel. 6th, dredged one scow load and coaled dredge. 7th, weather bad; dredged four loads. 8th, weather unfit to work; breaking ice and thawing lines. 9th, Sunday. 10th, employed breaking ice about plant to keep it from freezing up, and coaling; towed scow to Cranberry Creek for safety. 11th, shovelling snow; afternoon dredged two scow loads. 12th, dredged two scow loads; detained with swinging cable broken. 13th, dredged four scow loads; detained with tug *Merrimac* aground with fog, &c. 14th, dredged one scow load; detained thawing ice. Dredge bucket dropped in scow pocket, bending door and fouling cable; friction slipped. 15th, dredged four scow loads and detained two hours with large rock in bucket. 16th, Sunday. 17th, dredged four scow loads

SESSIONAL PAPER No. 19

and detained with scow winch friction broken. 18th, worked forenoon; dredged one scow load after completing repairs to winch; afternoon, ice breaking; towed plant to winter quarters at Rhodes Curry wharf, and dispensed with *Merrimac*. 19th, dismantling plant for repairs. 20th, dismantling the plant and moving same into winter quarters. 21st, moving plant, cleaning crane and blowing down main boiler. 22nd, crew cleaning crane and disconnecting machinery. 23rd, Sunday. 24th, pumping water out of limbers; blew down donkey boiler. 25th, Christmas. 26th, cleaning water tanks and A frame and boiler. 27th, cleaning boiler and tanks. 28th, painting A frame, crane and wire stays. 29th, cleaning tanks and boiler and painting them inside. 30th, Sunday. 31st, completing tanks and boiler; crew will be paid off January 5. Dredging at North Pond, Red islands, Richmond county, N.S., 21,900 cubic yards at a cost of 55·72 cents per cubic yard. Dredging at Sydney, Whitney pier, 600 cubic yards at a cost of 46·85 cents per cubic yard, and at Sydney Steel Company's piers, 14,800 cubic yards at a cost of 56·46 cents per cubic yard. During the winter, repairs and renewals were made and the dredge ready by March 30, but too much ice for tugs or dredge to resume work.

The Dredge 'New Brunswick.'

From July 1 to 11, 1906, this dredge was engaged on the River St. John, improving the depth of water in front of the Cedar's wharf, King's county, N.B., completing the same by removing 3,950 cubic yards at a cost of 16·74 cents per yard. At Evandale wharf, King's county, on July 12, 75 cubic yards were removed, at a cost of 89·57 cents per cubic yard. Owing to the bottom being too hard for the clam shell, this work was left unfinished, to be taken up by the dredge *New Dominion* at some future date. July 13 to 18, this dredge was engaged improving the depth of water in front of the wharf at Hampstead, in Queen's county, N.B., by removing 1,200 cubic yards at a cost of 33·44 cents per cubic yard, and completing the work. From July 19 to 27, the dredge removed 1,865 cubic yards in front of Belyea's wharf, Queen's county, N.B., at a cost of 32·66 cents per yard, and completed the work. From July 28 to September 8 it removed 8,290 cubic yards in front of the wharf at Colwell's creek, Washademoak lake, Queen's county, N.B., at a cost of 30·85 cents per cubic yard, completing the work. August 14 and 15, anchor post broken and repaired. From September 9 to October 8, it was engaged in front of Oak Point wharf, King's county, N.B., removing 12,100 cubic yards at a cost of 16·35 cents per cubic yard, and completing the work. September 26, engine was disabled. From October 9 to November 23, the dredge worked in front of Victoria wharf, King's county, N.B., removing 21,700 cubic yards at a cost of 11·28 cents per cubic yard, completing the work. Ice making, the dredge was ordered to St. John, where it arrived on November 26, and went into winter quarters, and after placing everything in order, the crew was paid off on December 3. Repairs to boiler, engines and machinery are now being proceeded with to completion by March 30, but owing to ice and freshet in river will be unable to work before May 15, if then.

The Dredge 'W. S. Fielding.'

This dredge continued improving the channel at Yarmouth, N.S., July 1 to August 3, 1906, removing 33,250 cubic yards mud, at a cost of 13·47 cents per yard. Considerable time was lost with vessels in the dredge's way, waiting for rise of tide to get out past light where there is but 15 feet at low water (rock) and dredge when loaded draws 19 feet; and also in repairing damaged buckets and by fog. August 4 received orders to leave for dry dock at Halifax; took up moorings, getting ready to leave; adjusted compasses; 10th, sailed from Yarmouth at 6.30 a.m. Weather foggy, and anchored at Bon Portage at noon, 11th, at anchor; thick fog; 12th, at anchor; thick fog; 13th, sailed from Bon Portage at midnight; anchored at Mosher's harbour at 5 a.m. 14th, arrived at Halifax at 11 a.m. At 4 p.m. I went on board to arrange about docking.

7-8 EDWARD VII., A. 1908

Crew engaged painting inside of hull. 15th, I again visited dredge; crew engaged painting. A vessel in the dry dock prevents the dredge docking for a few days. 16th, 17th, 18th, 20th crew painting inside hull. 21st, dredge in dry-dock at 1.20 p.m. blocks not right; could not pump dock. 22nd, divers working on blocks. 23rd, docked and dock pumped at 8 a.m. and men at work scraping. 24th, men scraping dredge's bottom. 25th, men scraping and painting bottom. 26th, Sunday. 27th, painting bottom. 28th, raining; could not paint. 29th, painting and repairing hopper door chains. 30th, finished painting. 31st, came out of dock at 9 a.m., and moored at Intercolonial Railway pier No. 5 to coal.

September 1 finished coaling, getting ready to leave for Pictou. Boilermakers working on patch on bow, and rigging gear for derrick. 3rd, sailed from Halifax for Pictou, 5 a.m. Heavy sea, went into Jeddore and anchored 9 a.m. Rain and heavy wind. 4th at 1 p.m., left Jeddore for Pictou. 5th at 8 a.m., came to anchor at Hawkesbury. Engineer said his men could not work any more without rest, had to come to anchor and stop on that account. At 1 p.m., took Frank Nickerson on shore to a doctor. Doctor advised to put him in hospital, which was done. 6th, sailed from Port Hawkesbury at 4 p.m. Arrived at Pictou, N.S., at 1 p.m., anchored in the stream. 7th, lowering buckets; taking off lashings and doing other work. 8th, making ready for dredging on Pictou bar. Went into Intercolonial Railway pier and landed spare gear. 9th, Sunday. 10th, making ready procuring more men. 11th, steamed to coal pier and got coal. 12th and 13th, waiting arrival of tug to run moorings. 14th and 15th, too rough to lay moorings; men engaged painting under deck. 16th, Sunday. 17th, laid moorings and dredged one load. 18th, a vessel took away one of the mooring buoys. Dredged two hoppers, 1,600 yards. 19th, dredged one load, 800 yards; heavy wind in afternoon; anchors would not hold to dredge. Tug *Victoria* left and *Wm. Aitkin* took its place. 20th, dredged two loads, 1,700 yards. 21st, dredged two loads, 1,500 yards. 22nd, dredged two loads, 1,800 yards. 23rd, Sunday. 24th, dredged one load, 900 yards; lost bow moorings, had to grapple them and lost getting one load, on that account. 25th, dredged two loads, 1,800 yards. 26th, took coal and repairing guide in shoot. 27th, dredged two loads, 1,800 yards. 28th, dredged two loads, 1,800 yards, and put end of suction on. 29th, worked suction two hours, and dredged about 200 yards, then resumed with buckets and dredged two loads, 1,000 yards. 30th, Sunday.

On October 1 dredged three loads, 2,200 yards. 2nd, took in coal. 3rd, dredged two loads, 1,700 yards. 4th, dredged two loads, 1,800 yards and moved bow anchor. 5th, dredged two loads, 1,800 yards and moved anchors. 6th, dredged two loads, 1,800 yards; 7th, Sunday. 8th, dredged two loads, 1,500 yards. Vessel took buoy off mooring, and it took one and a half hours to grapple for the moorings. 9th, dredged one load, 750 yards; blowing very hard and had to quit work. 10th, took in coal. John Johnston refused to trim coal; paid him off. 11th, gale of wind; could not dredge; took end of suction off and placed it on wharf. 12th, dredged two loads, 1,700 yards. 13th, dredged two loads, 1,800 yards. Dredge took a list in loading; had to put water in starboard tank to upright her. 14th, Sunday. 15th, dredged three loads, 2,200 yards. 16th, gale of wind. 17th, dredged two loads, 1,600 yards, and moved anchors. 18th, Thanksgiving Day, holiday. 19th, dredged three loads, 2,400 yards. 20th, dredged two loads, 1,600 yards, moved anchors. 21st, Sunday. 22nd, dredged two loads, 1,600 yards. 23rd, took in coal. 24th, dredged three loads, 2,200 yards. 25th, dredged one load, 750 yards; blowing a gale and had to stop dredging. 26th, dredged three loads, 2,400 yards. 27th, dredged two loads, 1,600 yards, and moved anchors. 28th, Sunday. 29th, 30th and 31st, cleaned boilers and filled water tanks. November 1, 2, 3, 4, 5 and 6, gale and sea on bar; unable to dredge. Men engaged in painting. 7th, dredged two loads, 1,500 yards. 8th, heavy swell on bar, unable to dredge. 9th, dredged one load, 800 yards, and had to stop for heavy swell on bar. 10th, dredged two loads, 1,600 yards. 11th, Sunday. 12th, blowing a gale. 13th, dredged one load, 800 yards and took in coal. 14th, dredged two loads, 1,600 yards and moved anchors. Inspector on

SESSIONAL PAPER No. 19

board. 15th, dredged two loads, 1,600 yards and moved anchors. 16th, gale of wind; could not dredge. 17th, dredged two loads, 1,700 yards. 18th, Sunday. 19th, dredged two loads, 1,600 yards and moved anchors. 20th and 21st, dredged two loads each, 1,600 yards and moved anchors. 22nd, dredged two loads, 1,600 yards and moved anchors. 23rd, dredged two loads, 1,600 yards and moved anchors. 24th, snowstorm, did not dredge. 25th, Sunday. 26th, dredged two loads, 1,700 yards and moved bow anchor. 27th, dredged one load, 850 yards; detained by thick snowstorm. 28th, dredged two loads, 1,600 yards. 29th, gale of wind. 30th, gale of wind; could not dredge on bar.

December 1, dredged two loads, 1,650 yards. 2nd, 3rd and 4th, gales of wind; could not work; ice-making. 5th, afraid to leave anchor down longer to have them frozen in the ice in the way of winter steamers. 6th, ordered anchors taken up and dredge placed in winter quarters at Intercolonial Railway new pier. 6th, hoisted buckets and secured them. 7th, I visited the dredge. Men storing gear under deck. 8th, putting dredge in order for winter. 9th, Sunday. 10th, crew making dredge ready for winter. 11th, crew employed cutting dredge off 20 feet from pier in the ice. 12th, cleaning ship. 13th, finished cutting ice to move dredge 20 feet from pier. 14th, finished cleaning up. 15th, paid off mate, second mate, cook, one oiler, seamen and firemen. 16th, Sunday. 17th, engineers making ready for winter. Mr. Wright visited dredge. 20th, first cook paid off. 21st, machinists taking ends off winches for repairs. 22nd, to 31st, captain, engineers and firemen employed.

From September 1 to December 4, 70,900 yards gravel and sand were removed from the bar at Pictou at a cost of 19.16 cents per cubic yard, leaving the work as yet unfinished. Repairs are under way, and will be urged as rapidly as possible, and will be ready long before it can work on Pictou bar.

The Dredge 'Montague.'

On August 25, 1906, I received your telegram as follows: 'Am wiring Mr. Howden that if he gets to Prince Edward Island with dredge *Montague* on or before September 1 to take her to Victoria harbour, where she is to do two weeks' work, then she is to go to Souris.'

August 28 you wired: 'If Mr. Howden is not towing dredge *Montague* to Victoria, please make arrangements to have this done at once.' Same date I wired you: 'Mr. Howden with *Speedy* and scows have not arrived at Souris yet; will wire Captain to make *Montague* ready to leave for Victoria as soon as Mr. Howden arrives.' I also wired Capt. D. A. McDonald at Souris, same day: 'Tell Mr. Howden, minister directs *Montague* and scows are to be taken immediately to Crapaud, Victoria. You will make dredge ready at once.' Tugs were immediately procured and the dredge and scows taken to Victoria. Dredge arrived at Victoria on September 5, and on the 6th I wired captain to prepare dredge for work immediately. On the 7th, Captain D. A. McDonald wired: 'The A frame tipped back and it and crane came down on deck; a bad wreck. Bolts broken on swinging circle; don't think repairs can be effected at Victoria.'

I immediately left for Victoria, taking Mr. Wright with me, and on arrival at Charlottetown took Mr. J. B. Hegan with us to Victoria, made an investigation of the damage, and made report to you. Seeing the damage was not as bad as represented by Captain McDonald, I decided to have repairs made at Victoria, and proceeded at once to do so, leaving Mr. James Wright, inspector to look after them. On the 17th, repairs were completed, and the dredge ready for work, and begun dredging on the 18th, lifting 300 yards. 19th, dredged 400 yards. 20th, dredged 400 yards. 21st, sheave in foot of port spud post broke, and 22nd and 23rd making repairs. 24th, dredged 500 yards. 25th, dredged 200 yards; hoisting cable broken and new cable rove on 26th. 27th, dredged 400 yards. 28th, dredged 200 yards. 29th, dredged 500 yards. 30th, Sunday.

October 1, dredged 800 yards; 2nd, 1,200 yards; 3rd, 1,100 yards; 4th, 1,000 yards; 5th, 1,100 yards; 6th, 400 yards. 7th, Sunday. 8th, 300 yards, took coal. 9th, 800

7-8 EDWARD VII., A. 1908

yards. 10th, 200 yards. 11th, 200 yards; gale and rain. 12th, 400 yards. 13th, 200 yards. 14th, Sunday. 15th, 200 yards. 16th, 700 yards. 17th, 700 yards. 18th, Thanksgiving day. 19th, 850 yards; scow chain broke. 20th, 500 yards; took in water. 21st, Sunday. 22nd, took coal and water. 23rd, 100 yards; heavy rain. 24th, dredged 700 yards and broke backing chain. 25th, 200 yards; heavy gale of wind. 26th, 400 yards. 27th, 900 yards. 28th, Sunday. 29th, 700 yards. 30th, 1,100 yards. 31st, 900 yards. Broke bucket door at 3 p.m. Sent tug to Charlottetown for repairs to door.

November 1 and 2, tug returned with door. 3rd, shipped bucket door and dredged 900 yards. 4th, Sunday. 5th, 900 yards. 6th, 100 yards. 7th, unable to work; weather bad. Ordered to make plant ready to tow to Charlottetown; blowing hard. 9th and 10th, dismantling dredge. 11th, Sunday. 12th, snow and sleet; dismantling. 13th, plant ready to leave. 14th, fine, waiting for *Stanley* to tow plant to Charlottetown; did not come. 15th, being fine at 9.10 a.m. left wharf and towed out to fareway buoy to meet *Stanley* as arranged. Although *Stanley* was within four miles of dredge, she steamed away to the westward. Captain McDonald could do nothing then but continue on with the little tug *Islander* alone towing. Wind and tide being favourable they arrived in Charlottetown at 7.45 p.m. and anchored in the harbour. 16th, a fierce gale of easterly wind; lying at anchor; docked scows. 17th, docked dredge at Carvell's wharf for the present. Peake's wharf being occupied. 18th to 30th, storing material and making dredge ready for winter and repairs. Landing timber for anchor posts and bucket arm on wharf. Tug *Islander* started with two scows for Souris on 23rd. Found too much wind and sea outside and returned at noon. 26th, tugs *Islander* and *F. M. Batt* towed scows to Souris. 30th, paid off crew. December 1 to 8, engineer and firemen to work on machinery. On the 10th, Mr. James Wright, inspector, visited the dredge and plant. Captain and Mr. Wright visited scows at Souris on the 12th. Engineer and fireman from 9th to 31st, working on repairs and putting the machinery in order. Cut dredge and plant out 20 feet from wharf in the ice. Dredge frozen in; took off moorings. 24th, blew off boiler. The quantity dredged at Victoria was 20,450 cubic yards at a cost of 37.55 cents per cubic yard. Repairs and improvements to dredge were proceeded with and completed March 30, and dredge ready for work.

The Dredge 'Northumberland.'

This dredge has been engaged on the eastern passage, Toronto, during the past season, and is expected to leave for the maritime provinces by June 1.

The Tug 'Rona.'

This tug gave good service the past season in attendance on the dredge *George McKenzie*.

The Tug 'Cricket.'

The tug *Cricket* has not been in commission the past season, a larger tug being required for the work the dredge it had attended was doing.

The Tug 'Helena.'

A new steel tug building at Collingwood, Ontario, will be completed and leave for the maritime provinces about the first of June next.

SESSIONAL PAPER No. 19

DREDGING PLANT.

The following is a summary description of the dredging plant owned and operated by the Public Works Department in the maritime provinces:—

The Self-propelling Elevator Dredge 'St. Lawrence' (iron hull).

Length over all—175 feet.
Beam—30 feet.
Draught when loaded aft—13.5 feet.
Draught when loaded forward—8.5 feet.
Least working depth (ladder with 32 buckets dropped 30 feet from bow) 8.5 feet.
Greatest working depth (bucket ladder dropped 40 feet from bow)—28 feet.
Capacity of hopper for spoil material—350 cubic yards.
Speed when light—6 to 7 miles per hour.
Speed when loaded—3 to 4 miles per hour.
Daily rate of dredging hard material—350 to 700 cubic yards.
Daily rate of dredging ordinary earth—750 to 1,000 cubic yards.
Daily rate of dredging soft material—1,050 to 1,400 cubic yards.

The Self-propelling Elevator Dredge 'Canada' (iron hull).

Length over all—130 feet.
Beam—20 feet.
Draught when loaded aft—11.5 feet.
Draught when loaded forward—7 feet.
Least working depth—7 feet.
Greatest working depth (ladder, 24 buckets)—16 feet.
Capacity of hopper for spoil material—90 cubic yards.
Speed when light and newly painted—6 to 7 miles per hour.
Speed when loaded—3 to 4 miles per hour.
Daily rate of dredging in hard bottom—180 to 270 cubic yards.
Daily rate of dredging with ordinary digging—180 to 360 cubic yards.
Daily rate of dredging in soft material—360 to 450 yards.

The Self-propelling Elevator and Sand Pump Dredge 'W. S. Fielding' (steel hull).

Length over all—247 feet.
Width over all—42 feet.
Draught when loaded aft—19 feet.
Greatest working depth—61 feet.
Capacity of hoppers for spoil—1,000 cubic yards.
Speed when light—7 miles per hour.
Speed when loaded—4 miles per hour.
Daily rate of dredging—2,000 cubic yards with buckets.
Daily rate of dredging—1,000 cubic yards with sand pump.

The Spoon Dredge 'New Dominion' (wooden hull).

Length over all—90 feet.
Width—28 feet.
Draught—5½ feet.
Greatest working depth—21 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging with ordinary material—450 cubic yards.
Daily rate of dredging on soft material—600 to 700 cubic yards.
Number of dump scows or barges used—2.

7-8 EDWARD VII., A. 1908

The Spoon Dredge 'Prince Edward' (wooden hull).

Length over all—80 feet.
Width—28 feet.
Draught—6 feet.
Greatest working depth—21 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging with ordinary material—500 cubic yards.
Daily rate of dredging in soft material—600 to 700 cubic yards.
Number of dump scows or barges used—3.

The Spoon or Dipper Dredge 'George McKenzie' (wooden hull).

Length—90 feet.
Width—28 feet.
Draught—6 feet.
Greatest working depth—22 feet.
Daily rate of dredging in hard material—350 cubic yards.
Daily rate of dredging with ordinary material—500 cubic yards.
Daily rate of dredging in soft material—600 cubic yards.
Number of dump scows or barges used—3.

The Boom and Dipper Dredge 'Cape Breton' (steel hull).

Length—91 feet.
Beam—36 feet.
Draught—7½ feet.
Greatest working depth—34 feet.
Daily rate of dredging in hard material—1,000 cubic yards.
Daily rate of dredging in ordinary material—1,500 cubic yards.
Daily rate of dredging in soft material—2,000 cubic yards.
Number of barges used (each of 200 yards capacity—steel)—3.

The Clam Shell Dredge 'New Brunswick' (wooden hull).

Length over all—90 feet.
Width—25 feet.
Draught—2½ feet.
Greatest working depth—17 feet.
Daily rate of dredging in hard material—180 cubic yards.
Daily rate of dredging in ordinary material—300 cubic yards.
Daily rate of dredging in soft material—450 cubic yards.
Number of decked scows used—3, as at present, and 2 bottom-dumping scows.

The Spoon Dredge 'Montague' (steel hull).

Length over all—90 feet.
Width—37 feet 8 inches.
Draught—5 feet 6 inches.
Greatest working depth—28 feet.
Daily rate of dredging, 10 hours—1,000 cubic yards.
Number of barges used (each 72 feet long 19 feet 8 inches wide, depth 7 feet)—2.

The Sand Pump Dredge 'Northumberland' (steel hull).

Length—130 feet.
Agitator—65 feet.
Width—52 feet.

SESSIONAL PAPER No. 19

Draught—7 feet.
 Working depth—40 feet.
 Daily working capacity—4,000 cubic yards in ten hours.

Tug 'Cricket.'

Length—36.5 feet.
 Beam—7.3 feet.
 Draught—3.10 feet.
 Horse power—4.

Tug 'Rona.'

Length—85 feet.
 Beam—19.3 feet.
 Draught—8 feet.
 Horse power—25.
 One pile driver, engine and boiler fitted on scow.
 One stone lifter, engine and large grips (no boiler).

Steel Tug 'Helena.'

Now building at Collingwood, will be ready for service by June 1.

MEMORANDUM of quantities removed by the several dredges in the maritime provinces, &c., during (nine months) the fiscal year 1906-7.

	Cubic yards.
<i>St. Lawrence</i>	24,325
<i>Canada</i>	9,850
<i>New Dominion</i>	52,540
<i>Prince Edward</i>	33,125
<i>Geo. McKenzie</i>	19,071
<i>Cape Breton</i>	37,300
<i>New Brunswick</i>	49,180
<i>W. S. Fielding</i>	104,150
<i>Montague</i>	20,450
<i>Northumberland</i> —(Work at Toronto not included).	

349,991

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF Disbursements of the Dredges in the Maritime Provinces during the Nine Months ending March 31, 1907.
DREDGE 'ST. LAWRENCE.'

ITEMS.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	481 44	504 66	502 19	511 00	474 90	455 29	311 95	292 22	378 00	3,911 65
Coal.....	134 00	96 75	338 75	536 25	62 13	6 22	.....	77 00	.....	1,321 10
Provisions.....	137 55	216 80	161 89	198 58	109 43	150 06	.....	99 58	61 47	1,135 36
Stores.....	56 93	25 91	.....	.....	25 55	.....	4 85	.....	140 10	233 34
Equipment.....	.....	.....	.....	231 50	.....	.....	.....	71 97	.....	303 47
Water.....	.....	.....	.....	12 10	.....	.....	.....	.....	.....	12 10
Repairs.....	649 68	680 06	18 00	251 96	79 25	16 60	.....	383 05	1,665 65	3,744 25
Pilotage.....	21 00	138 34	.....	135 00	104 05	9 00	.....	.....	.....	427 39
Towage.....	.....	.....	150 00	.....	.....	.....	.....	.....	.....	150 00
Wharfage.....	.....	.....	105 00	.....	.....	.....	.....	.....	.....	105 00
Contingencies.....	14 60	18 89	165 48	.....	75 45	.....	28 51	.....	3 06	305 99
Totals.....	1,505 20	1,681 41	1,441 31	1,956 39	930 76	637 17	345 31	923 82	2,248 28	11,669 65
Working expenses.....	855 52	1,001 35	1,441 31	1,704 43	851 51	156 28	29 50	248 53	192 22	6,480 67
Repairs, ordinary.....	19 25	Nil.	Nil.	176 35	Nil.	Nil.	Nil.	Nil.	900 85	1,096 45
" extraordinary.....	630 43	680 06	Nil.	75 61	79 25	480 89	315 81	675 27	1,155 21	4,092 53
Totals.....	1,505 20	1,681 41	1,441 31	1,956 39	930 76	637 17	345 31	923 82	2,248 28	11,669 65

SESSIONAL PAPER No. 19

DREDGE 'CANADA.'

Wages.....	436 52	437 00	548 91	500 05	436 66	434 43	379 08	227 00	257 30	3,656 95
Coal.....	113 13	95 13	58 87	63 62	92 39	142 84	29 50	49 25	644 73	
Provisions.....	122 55	181 13	151 16	161 00	154 85	141 14	71 15	56 48	1,039 46	
Stores.....	7 10	42 68	29 69	22 96	2 54	31 66	21 07	.....	239 86	
Equipment.....	.....	121 52	.....	.....	.....	.....	.....	.....	395 34	516 86
Water.....	3 00	.....	5 40	8 70	4 30	1 35	.....	.....	24 75	
Repairs.....	1,343 25	94 05	.....	22 22	45 45	617 35	659 77	76 94	152 20	2,965 78
Pilotage.....	56 80	54 00	50 00	54 00	6 94	.....	2 87	1 70	.....	280 25
Contingencies.....	5 65	6 89	2 91	.....	.....	3 40	.....	.....	4 62	34 98
Totals.....	2,088 00	1,032 40	846 94	882 55	743 13	1,372 17	1,163 44	305 64	1,157 05	9,541 32
Working expenses.....	744 75	938 35	846 94	810 33	743 13	754 82	124 59	Nil.	1,004 85	5,907 76
Repairs, ordinary.....	40 65	Nil.	Nil.	1 75	Nil.	6 54	Nil.	Nil.	152 20	201 14
" extraordinary.....	1,302 60	94 05	Nil.	20 47	Nil.	610 81	1,038 85	305 64	Nil.	3,372 42
Totals.....	2,088 00	1,032 40	846 94	882 55	743 13	1,372 17	1,163 44	305 64	1,157 05	9,541 32

DREDGE 'NEW DOMINION.'

Wages.....	414 66	414 66	411 85	463 53	413 84	422 71	608 00	664 42	534 71	4,348 38
Coal.....	118 35	93 31	111 22	102 66	64 90	271 51	41 88	39 29	78 58	431 26
Provisions.....	18 15	.....	3 60	1 15	1 42	87 30	85 53	58 20	70 46	792 53
Stores.....	151 88	.....	.....	.....	.....	40 65	.....	.....	17 10	41 42
Equipment.....	12 50	.....	.....	.....	.....	4 00	10 51	20 63	20 92	213 45
Water.....	2 93	.....	.....	74 97	8 00	34 33	250 45	172 82	39 50	87 14
Repairs.....	.....	.....	.....	.....	.....	25 00	.....	.....	133 82	656 82
Pilotage.....	690 00	810 00	720 00	810 00	.....	1,200 00	.....	375 50	596 00	25 00
Towage.....	.....	.....	.....	.....	.....	10 00	.....	.....	10 00	5,201 50
Wharfage.....	4 06	10 00	1 22	1 48	2 99	16 18	.....	.....	1 80	37 73
Contingencies.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	1,412 53	1,327 97	1,247 89	1,453 79	491 15	2,112 28	976 37	1,330 86	1,492 39	11,845 23
Working expenses.....	1,409 60	1,327 97	1,247 89	1,321 19	483 15	2,009 82	151 17	882 46	1,211 57	10,044 82
Repairs, ordinary.....	2 93	Nil.	Nil.	Nil.	8 00	Nil.	Nil.	Nil.	133 02	143 95
" extraordinary.....	Nil.	Nil.	Nil.	132 60	Nil.	102 46	825 20	448 40	147 80	1,656 46
Totals.....	1,412 53	1,327 97	1,247 89	1,453 79	491 15	2,112 28	976 37	1,330 86	1,492 39	11,845 23

7-3 EDWARD VII., A. 1908

CLASSIFICATION OF Disbursements of the Dredges in the Maritime Provinces during the Nine Months ending March 31, 1907.
DREDGE 'PRINCE EDWARD.'

ITEMS.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.	§ cts.
Wages.....	405 48	400 25	407 47	408 95	436 31	263 40	210 00	220 00	391 00	3,151 86
Coal.....		83 23			242 66				60 41	386 30
Provisions.....	77 57		94 55		261 90	86 45	44 22			564 69
Stores.....	8 16	109 75			328 64		21 91	5 00		473 46
Equipment.....	6 00				177 51					183 51
Water.....					54 63	31 00				85 63
Repairs.....		838 80		487 95	2 00	51 80	97 17		894 42	2,372 14
Towage.....	750 00	810 00	600 00	630 00	559 23		135 00			3,504 23
Contingencies.....		11 54		20 10	15 32			20 56	14 95	82 47
Totals.....	1,247 21	2,262 57	1,102 02	1,567 00	2,078 20	435 65	508 30	245 56	1,360 78	10,807 29
Working expenses.....	1,247 21	1,423 77	1,102 02	1,079 05	2,076 20	383 85	201 13	25 56	75 36	7,614 15
Repairs, ordinary.....	Nil.	Nil.	Nil.	Nil.	2 00	Nil.	Nil.	Nil.	815 47	817 47
" extraordinary.....	Nil.	838 80	Nil.	487 95	Nil.	51 80	307 17	220 00	469 95	2,375 67
Totals.....	1,247 21	2,262 57	1,102 02	1,567 00	2,078 20	435 65	508 30	245 56	1,360 78	10,807 29

SESSIONAL PAPER No. 19

DREDGE 'GEORGE MCKENZIE.'

19 Wages.....	386 10	405 00	405 00	389 86	273 48	212 50	208 29	.....	2,900 23
Coal.....	136 35	74 10	74 10	.....	23 31	.....	.....	.....	233 76
Provisions.....	63 21	10 83	27 19	153 59	17 23	14 38	26 94	28 09	538 62
Stores.....	.....	.....	.....	.....	1 00	112 06	.....	58 28	99 60
Water.....	.....	116 64	62 50	543 70	.....	.....	.....	516 66	53 50
Repairs.....	.....	.....	93 73	.....	.....	.....	.....	.....	1,412 85
Pilotage.....	429 63	258 26	6 00	291 59	236 39	2,030 00	82 36	506 65	6 00
Towage.....	29 00	449 27	267 60	10 00	.....	.....	.....	.....	4,551 15
Wharfage.....	1 50	18 79	.....	.....	36 80	.....	.....	.....	30 00
Contingencies.....	.....	.....	.....	.....	.....	.....	.....	5 44	62 53
Totals.....	1,046 79	820 73	980 35	1,493 63	588 21	2,368 94	314 30	1,322 81	9,908 24
Working Expenses.....	1,046 79	674 09	980 35	878 69	583 21	1,484 38	Nil	562 08	7,805 42
Repairs, Ordinary.....	Nil	Nil	Nil	5 00	Nil	Nil	Nil	559 83	628 83
Extraordinary.....	Nil	146 64	88 79	543 70	Nil	384 56	314 30	Nil	1,477 99
Totals.....	1,046 79	820 73	980 35	1,493 63	588 21	2,368 94	314 30	1,322 81	9,908 24

DREDGE 'CAPE BRETON.'

Wages.....	443 85	436 67	445 00	438 09	417 66	284 81	296 07	373 31	3,580 46
Coal.....	219 37	193 13	193 13	.....	180 00	.....	.....	36 00	628 50
Provisions.....	97 14	108 02	144 81	439 09	137 92	22 62	26 90	82 41	924 87
Stores.....	97 01	81 34	.....	.....	.....	8 10	.....	.....	186 45
Equipment.....	18 39	.....	.....	.....	.....	.....	.....	.....	18 30
Water.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Repairs.....	1,675 31	395 90	277 67	.....	.....	10 00	.....	15 00	25 00
Pilotage.....	10 00	.....	.....	.....	.....	70 98	.....	2,120 31	4,540 17
Towage.....	360 00	360 00	770 00	3,090 00	1,830 00	2,540 00	.....	.....	10 00
Wharfage.....	12 00	.....	.....	.....	.....	.....	.....	.....	9,715 00
Contingencies.....	30 31	15 24	15 60	16 86	.....	6 29	2 23	28 00	40 00
Totals.....	2,993 29	1,381 93	1,658 18	3,697 42	2,565 58	2,942 70	325 20	56 84	143 37
Working Expenses.....	2,993 29	1,381 93	1,658 18	3,697 42	2,565 58	2,942 70	325 20	2,711 87	19,812 12
Repairs, Ordinary.....	1,287 98	986 03	1,508 18	1,377 78	2,565 58	2,871 72	Nil	218 25	14,573 44
Extraordinary.....	Nil	Nil	Nil	3,697 92	Nil	Nil	Nil	2,120 31	2,190 31
Totals.....	1,675 31	395 90	277 67	Nil	Nil	70 98	325 20	373 31	3,118 37
Totals.....	2,96 29	1,381 93	1,658 18	1,655 45	3,697 92	2,942 70	325 20	2,711 87	19,812 12

7-8 EDWARD VII. A. 1908

CLASSIFICATION of Disbursements of the Dredges in the Maritime Provinces during the Nine Months ending June 30, 1907—Continued.

DREDGE 'NEW BRUNSWICK.'

ITEMS.	July.		August.		September.		October.		November.		December.		January.		February.		March.		Grand Total.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Wages.....	338	50	380	76	337	00	329	45	306	63	439	52	136	00	198	95	490	61	2,457	42
Coal.....			185	25	8	66	156	75	87	57							5	68	443	91
Provisions.....	25	01	110	61	130	69	2	40	248	82	5	03							522	56
Stores.....	13	42	9	03							1	92					7	68	32	05
Equipment.....	62	24					27	60			58	33							148	17
Water.....					3	00	1	50									5	25	9	75
Repairs.....			79	13					82	52	176	22	418	01	51	02	500	36	1,307	26
Towage.....					1,950	00	459	02	448	58									2,857	60
Contingencies.....	1	94	4	90	3	88	2	68	1	50									14	80
Totals.....	441	11	769	68	2,433	23	979	30	1,175	62	681	02	554	01	249	97	1,009	58	8,293	52
Working expenses.....	441	11	649	79	2,433	23	979	30	1,093	10	65	28	Nil.		Nil.		147	42	5,809	23
Repairs, ordinary.....	Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		Nil.		430	13	430	13
" extraordinary.....	Nil.		119	89	Nil.		Nil.		82	52	615	74	554	01	249	97	432	03	2,054	16
Totals.....	441	11	769	68	2,433	23	979	30	1,175	62	681	02	554	01	249	97	1,009	58	8,293	52

SESSIONAL PAPER No. 19

DREDGE 'W. S. FIELDING.'

Wages.....	998 81	881 28	902 06	937 34	933 83	673 77	482 02	485 03	480 70	6,704 94
Coal.....	625 66	238 27	501 75	474 00	199 50	111 11	204 75	38 06	204 75	2,253 10
Provisions.....	229 97	197 81	361 62	151 53	489 65	134 64	82 04	71 88	82 04	1,069 14
Stores.....	72 30	345 54	19 25	9 75	12 20	31 10	132 73	10 19	132 73	633 06
Equipment.....	73 18	.....	40 76	88 79	.....	.....	.....	.....	.....	202 73
Water.....	.....	.....	.....	41 00	.....	60 06	15 00	.....	15 00	116 00
Repairs.....	129 33	1,241 58	.....	182 56	.....	87 20	142 78	203 96	99 60	2,087 01
Pilotage.....	130 00	88 00	182 90	135 00	130 00	20 00	.....	.....	.....	685 90
Towage.....	375 00	106 00	420 00	780 00	720 00	180 00	.....	.....	4 00	2,584 00
Contingencies.....	17 66	13 63	17 58	54 77	20 56	40 04	.....	20 17	11 98	196 39
Totals.....	2,581 91	3,111 21	2,445 92	2,854 74	2,455 74	1,237 86	624 80	829 29	1,030 80	17,172 27
Working expenses.....	2,432 58	1,869 63	2,445 92	2,631 18	2,455 74	1,150 66	Nil	59 77	931 20	13,906 68
Repairs, ordinary.....	129 33	Nil	Nil	Nil	Nil	Nil	Nil	Nil	99 60	228 93
" extraordinary.....	Nil	1,241 58	Nil	223 56	Nil	87 20	624 80	769 52	Nil	2,946 66
Totals.....	2,581 91	3,111 21	2,445 92	2,854 74	2,455 74	1,237 86	624 80	829 29	1,030 80	17,172 27

DREDGE 'MONTAGUE.'

Wages.....	445 00	.....	445 00	445 00	445 00	255 00	257 47	280 00	642 30	2,769 86
Coal.....	319 90	.....	15 15	15 15	.....	.....	.....	.....	172 37	547 42
Provisions.....	213 08	.....	142 33	50 04	.....	.....	.....	.....	69 15	405 45
Stores.....	3 10	.....	6 33	21 76	.....	.....	.....	.....	100 34	100 34
Water.....	25 50	.....	70 00	.....	18 00	.....	.....	.....	144 75	144 75
Repairs.....	17 55	.....	37 81	.....	184 20	.....	.....	.....	317 86	617 51
Towage.....	1,177 09	.....	675 00	700 00	700 00	62 50	.....	.....	.....	2,614 59
Wharfage.....	.....	.....	20 00	.....	.....	.....	.....	.....	20 00	20 00
Contingencies.....	34 11	.....	.....	14 69	.....	11 78	.....	.....	19 60	80 18
Totals.....	2,275 33	Nil	1,471 62	1,231 49	1,231 49	531 57	257 47	280 00	1,252 62	7,300 10
Working expenses.....	2,257 78	.....	1,373 81	1,231 49	1,231 49	92 28	Nil	Nil	292 37	5,247 73
Repairs, ordinary.....	17 55	.....	7 74	Nil	Nil	Nil	Nil	Nil	246 70	271 99
" extraordinary.....	Nil	.....	90 07	Nil	Nil	439 20	257 47	280 00	713 55	1,730 38
Totals.....	2,275 33	Nil	1,471 62	1,231 49	1,231 49	531 57	257 47	280 00	1,252 62	7,300 10

7-8 EDWARD VII., A. 1908

CLASSIFICATION of Disbursements of the Dredges in the Maritime Provinces during the Nine Months ending March 31, 1907—Continued.

TUG 'RONA.'

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	195 00	195 00	195 00	195 00	195 00	195 00	60 00	82 36	157 68	1,470 04
Coal.....	89 10	189 52	189 52	43 05	43 05	19 02	.....	.....	34 75	356 42
Provisions.....	42 74	64 75	64 75	55 86	40 04	5 27	.....	.....	23 24	301 05
Stores.....	102 79	5 47	.....	.....	.....	.....	.....	.....	14 81	128 34
Equipment.....	.....	.....	.....	.....	.....	.....	.....	.....	214 54	214 54
Water.....	.....	.....	.....	12 74	3 50	3 00	.....	.....	19 24	19 24
Repairs.....	.....	.....	.....	.....	.....	.....	.....	.....	33 17	33 17
Wharfage.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10 00
Contingencies.....	.....	2 39	.....	4 00	10 00	14 10	.....	.....	27 86	48 35
Totals.....	429 63	258 26	449 27	267 60	291 59	236 39	60 00	82 36	566 05	2,581 15
Working expenses.....	429 63	258 26	449 27	267 60	291 59	236 39	Nil.	Nil.	462 88	2,395 62
Repairs, ordinary.....	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	43 17	43 17
" extraordinary.....	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	60 00	82 36	Nil.	142 26
Totals.....	429 63	258 26	449 27	267 60	291 59	236 39	60 00	82 36	566 05	2,581 15

SESSIONAL PAPER No. 19

CLASSIFICATION AND QUANTITIES OF Material removed by Dredges in the Maritime Provinces during the Nine Months ending March 31, 1907.

DREDGE 'ST. LAWRENCE.'

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Hard-pan, logs.		700								700
Boulders.										
Gravel.	350									350
Clay.										
Clay and stone.		4,900	5,425							10,325
Sand and rubbish.			1,050							1,050
Sand, very fine.	1,400	4,200		6,300						11,900
Mud.										
Totals.	1,750	9,800	6,475	6,300	Nil.	Nil.	Nil.	Nil.	Nil.	24,325

DREDGE 'CANADA.'

Mud.	1,080	2,610	2,070	1,980	90	1,480	540	Nil.	Nil.	9,850
Totals.	1,080	2,610	2,070	1,980	90	1,480	540	Nil.	Nil.	9,850

DREDGE 'NEW DOMINION.'

Gravel, clay and stone.	3,560	2,925		7,295	2,950					16,730
Sand, clay, mud and gravel.		6,425			2,300					8,725
Sand, clay, stone and gravel.		3,350	10,935							14,285
Mud, ordinary and clay.			675							675
Sand and mud.	1,400									1,400
Mud.	1,350									10,725
Totals.	6,310	12,700	11,610	7,295	5,250	Nil.	550	2,875	5,950	52,540

7-3 EDWARD VII., A. 1908

CLASSIFICATION AND QUANTITIES OF Material Removed by Dredges in the Maritime Provinces, &c.—Continued.

DREDGE 'PRINCE EDWARD.'

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Mud, clay, sand and rock.....	.....	.....	.....	2,070	.....	.....	.....	.....	.....	2,070
Clay and rock.....	.....	.....	.....	900	270	.....	.....	.....	.....	1,170
Sand, ordinary.....	6,435	.....	4,455	4,815	.....	.....	.....	.....	.....	15,705
Sand and mud.....	1,085	12,915	270	.....	.....	.....	.....	.....	.....	14,220
Mud.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	7,470	12,915	4,725	7,785	270	Nil.	Nil.	Nil.	Nil.	33,165

DREDGE 'GEO. MCKENZIE.'

Gravel and clay.....	1,845	1,165	.....	.....	.....	.....	.....	.....	.....	3,010
Sand, ordinary.....	5,215	3,286	1,215	5,040	.....	.....	.....	.....	.....	14,756
Mud.....	.....	.....	1,305	.....	.....	.....	.....	.....	.....	1,305
Totals.....	7,060	4,451	2,520	5,040	Nil.	Nil.	Nil.	Nil.	Nil.	19,071

DREDGE 'CAPE BRETON.'

Hard-pan and rock.....	.....	.....	.....	1,000	4,600	2,600	.....	.....	.....	8,200
Rock and clay.....	.....	.....	.....	2,000	.....	1,000	.....	.....	.....	3,000
Gravel, sand and mud.....	3,600	8,000	8,000	1,700	.....	.....	.....	.....	.....	21,300
Clay and mud.....	.....	.....	.....	1,000	.....	.....	.....	.....	.....	1,000
Sand, ordinary.....	1,600	.....	.....	.....	.....	.....	.....	.....	.....	1,600
Rock, sand and iron ore.....	.....	.....	.....	1,600	.....	.....	.....	.....	.....	1,600
Mud and stone.....	.....	.....	.....	600	.....	.....	.....	.....	.....	600
Totals.....	5,200	8,000	8,000	7,900	4,600	3,600	Nil.	Nil.	Nil.	37,300

SESSIONAL PAPER No. 19

DREDGE 'NEW BRUNSWICK.'

Mud and sticks.....	1,875	8,250	11,200	650				20,100
Mud.....	1,875							1,875
Clay and gravel.....	2,615		900	600				3,515
Clay and mud.....								600
Sand, ordinary, and clay.....	100							2,150
Sand, very fine, and mud.....		1,550						6,140
Mud and logs.....	2,600		2,450	9,250				14,800
Totals.....	7,190	9,800	15,050	10,500	Nil	Nil	Nil	49,180

DREDGE 'W. S. FIELDING.'

Rock and mud.....	1,200	8,300						1,200
Sand, gravel and shingle.....								8,300
Sand, clay, gravel and stone.....				3,900				3,900
Sand and stone.....			13,400					13,400
Stone, ordinary sand and gravel.....		7,300						17,300
Sand and gravel.....			17,850					17,850
Mud and sand.....	27,500			17,950	1,650			51,650
Totals.....	28,700	15,600	31,800	21,850	1,650	Nil	Nil	104,150

DREDGE 'MONTAGUE.'

Sand.....								1,900
Rock and mud.....								1,000
Gravel and sand.....				1,900				1,300
Clay, sand and mud.....			1,000					1,800
Rock and gravel.....								100
Sand and clay.....			4,700					5,500
Sand and mud.....			9,150					9,150
Mud.....			700					700
Totals.....		2,900	15,650	1,900	Nil	Nil	Nil	20,450

7-8 EDWARD VII., A. 1908

DETAILS OF DREDGING IN THE MARITIME PROVINCES.

For the Nine Months ended 31st March, 1907.

Dredge.	Locality.	Date.	Time Dredging.	Quantity. C Yds.	Expendi- ture at Locality.		Per Cubic Yard for Local Expendi- ture.		Wintering and Re- pairs, Equipment- ence.		Total Cost.		Per Cubic Yard for Total Expendi- ture.	
					\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
St. Lawrence.	Railway wharf, Pictou Co., N.S.	July 28 to Aug. 7, 1906.	36 00	5,950	488 19		0 08 20		1,432 03		1,921 12		0 32 29	
	Campbellton, Restigouche Co., N.B.	Aug. 8 to 14, and 19 to Oct. 4, & Oct. 6 to 25, 1906.	132 20	18,375	2,631 73		0 14 32		7,722 60		10,354 33		0 56 35	
Canada.	Windsor, Hants Co., N.S.	July 1 to Nov. 5, 1906	117 31	7,830	3,863 85		0 49 34		4,923 79		8,787 64		1 12 23	
	Yarmouth, Yarmouth Co., N.S.	Dec. 20, 1906, to Jan. 5, 1907.	23 16	2,020	519 13		0 27 18		1,699 75		1,218 88		0 61 32	
New Dominion.	St. Andrews, Charlotte Co., N.B.	July 1 to Dec. 11, 1906.	867 35	43,165	7,610 22		0 17 63		1,989 24		9,599 46		0 22 23	
	Navy Island Bar, St. John Co., N.B.	Jan. 28 to March 31, 1907.	135 46	9,375	1,823 87		0 24 19		3,62 80		2,500 67		0 30 31	
Prince Edward.	Railway wharf, Charlottetown, P.E.I.	July 1 to 23 and Sept. 5 to 24, 1906	159 46	8,685	1,823 17		0 20 49		1,815 12		3,638 29		0 41 88	
	Falconwood, Queen's Co., P.E.I.	July 24 to Sept. 4, 1906	195 50	14,625	1,947 27		0 13 31		1,358 67		3,883 94		0 26 57	
	Pownal	Sept. 25 to Nov. 8, 1906	184 21	9,855	1,926 29		0 19 54		1,917 79		3,844 08		0 39 00	
Geo. McKenzie.	Mabon, Inverness Co., N.S.	July 1 to Sept. 22, 1906.	341 30	13,896	2,645 66		0 19 04		2,677 78		5,323 44		0 38 31	
	Port Hood	Sept. 23 to Oct. 31, 1906.	119 00	5,175	2,534 19		0 48 47		2,564 96		5,099 15		0 98 53	
Cape Breton.	North Pond, Red Islands, Richmond Co., N.S.	July 1 to Oct. 8, 1906	186 00	21,900	7,416 83		0 33 87		4,786 40		12,203 23		0 55 72	
	Whitney Pier, Sydney, C.B., N.S.	Oct. 19 to 20, 1906.	12 00	600	170 86		0 38 47		110 26		281 12		0 46 85	
	International Coal Co. Pier, N.S.	Oct. 9 to 18 and 21 to Dec. 18, 1906	136 00	14,800	5,078 73		0 34 31		3,277 53		8,356 26		0 56 46	
New Brunswick.	Cadars, King's Co., N.B.	July 1 to 11, 1906.	71 00	3,950	381 07		0 09 66		279 62		661 29		0 16 74	
	Evards	July 12, 1906.	7 00	75	38 79		0 51 72		28 39		67 18		0 89 57	
	Hampstead, Queen's Co., N.B.	July 13 to 18, 1906	51 00	1,200	231 65		0 19 30		169 71		401 36		0 33 44	
	Belyea's wharf	July 19 to 27, 1906.	72 00	1,865	351 63		0 18 85		257 62		609 25		0 32 66	
	Colwell's Creek, Washademoak, Queen's Co., N.B.	July 28 to Sept. 8, 1906	270 00	8,290	1,476 10		0 17 80		1,081 42		2,557 52		0 30 85	
	Oak Point, King's Co., N.B.	Sept. 9 to Oct. 8, 1906.	57 30	12,100	1,142 23		0 09 44		836 82		1,979 05		0 16 35	
	Victoria wharf, King's Co., N.B.	Oct. 9 to Nov. 25, 1906	291 00	21,700	1,413 12		0 06 51		1,035 28		2,448 40		0 11 28	
W. S. Fielding.	Yarmouth, Yarmouth Co., N.S.	July 1 to Aug. 3, 1906.	53 58	33,250	2,546 61		0 07 66		1,332 66		4,479 27		0 13 47	
	Pictou Bar, Pictou Co., N.S.	Sept. 1 to Dec. 4, 1906	147 65	70,900	7,725 81		0 10 89		5,858 62		13,584 43		0 19 16	
Montague	Victoria, Crapaud, Queen's Co., P.E.I.	Sept. 6 to Nov. 14, 1906.	253 30	20,450	4,277 14		0 20 41		3,401 92		7,679 06		0 37 55	
			4,020 12	350,031	60,538 74		0 17 29		51,331 68		111,870 42		0 31 46	

SESSIONAL PAPER No. 19

EXPENDITURE for Dredging in Nova Scotia for the Thirty-fifth Year ended March 31, 1907.

County.	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDED JUNE 30, 1906.				FOR THE NINE MONTHS 1906-07.				Total Quantity.	Total Cost.		Cost for each County.
		Quantity.		Cost. for County.		Quantity.		Cost. for County.			Total Cost.		
		Cubic yards.	\$ cts.	\$ cts.	\$ cts.	Cubic yards.	\$ cts.	\$ cts.	\$ cts.		\$ cts.	\$ cts.	
Antigonish	Antigonish	22,025	3,649 15			22,025				Cubic yards.	\$ cts.	\$ cts.	
	Harbour au Bonclie	59,243	19,703 33			59,243					3,649 15		
	Tracadie	5,530 29	5,530 29			12,245					19,703 33		
	McNair's Cove	11,265	10,035 68			11,265					5,530 29		
	Bayfield	12,871	9,505 79			12,871					10,035 68		
	Arisaig	8,330	7,452 26			8,330					9,505 79		
	Cribbion's Point	4,675	4,125 19		60,001 69	4,675					7,452 26		
Annapolis. Cape Breton.	Annapolis.	2,825	1,635 68		1,635 68	2,825					4,125 19		
	Lincolnton.	22,267	9,275 56			22,267					1,635 68		
	Sydney	62,917	20,904 88			62,917					9,275 56		
	Little Glace Bay	46,450	16,936 02			46,450					20,904 88		
	Port Caledonia	17,413	8,242 21			17,413					16,936 02		
	Benedicte Pond	20,800	3,993 90			20,800					8,242 21		
	Christmas Island	19,045	3,364 98			19,045					3,993 90		
	Cow Bay	3,255	1,892 32			3,255					3,364 98		
	Main & Dieu	4,680	2,720 76			4,680					1,892 32		
	Louisburg	23,310	5,480 52			23,310					2,720 76		
	North Sydney (Coal&Steel Co.)	54,490	13,143 92			54,490					5,480 52		
	" Salter's Wharf	3,045	505 58			3,045					13,143 92		
	" Ballast Pier	2,625	364 03			2,625					505 58		
Colchester. Cumberland Digby. Guysboro.	" Voght's Wharf	1,470	294 02			1,470					364 03		
	" Ingraham's	1,680	275 85			1,680					294 02		
	" Ballast Hoops.	2,295	165 65			2,295					275 85		
	Sydney (Internat'l Coal Pier).					14,800	8,356 26				165 65		
	" (Whitney Pier)				89,470 70	600	281 12		8,637 38		8,356 26		
	Tatamagouche.	65,480	20,373 07		20,373 07	65,480					281 12		
	Farrsboro.	42,595	12,804 68			42,595					20,373 07		
	Wallace	93,865	24,140 37		36,945 05	93,865					12,804 68		
	Digby	55,740	11,069 10			55,740					24,140 37		
	Weymouth	88	28 62		11,037 72	88					11,069 10		
Guysboro.	Guysboro.	5,400	1,413 53			5,400					28 62		
	Larry's River.	47,655	16,519 85			47,655					1,413 53		
	Port Mulgrave	4,347	2,494 81			4,347					16,519 85		
	Sherbrooke	1,260	496 49			1,260					2,494 81		
	Cooks Cove.	16,815	7,336 29								496 49		
	St. Mary's River.	81,812	22,352 04								7,336 29		
											22,352 04		

7-8 EDWARD VII., A. 1908

EXPENDITURE for Dredging in Nova Scotia for the Thirty-fifth Year ended March 31, 1907—Continued.

County	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDED JUNE 30, 1906.				FOR THE NINE MONTHS 1906-1907.				Total Quantity.	Total cost		Cost for each County.
		Quantity.	Cost.		Cost for County.	Quantity.	Cost.		Cost for County.		\$	cts.	
			\$	cts.			\$	cts.						$	cts.
Guysboro'— <i>Con.</i> Halifax.	Tickle Passage, Little Canso.	Cubic yards.	4,477 97	.....	.....	Cubic yards.	.....	.....	.....	3,015	4,477 97	.....	57,295 31
	Bar, Sonora, St. Mary's River.	3,015	2,204 33	57,295 31	.....	.....	.....	.....	.....	5,628	2,204 33	.....	57,295 31
	Chesetcook.	3,628	2,593 71	.....	.....	.....	.....	.....	.....	3,920	2,593 71	.....	.....
	Halifax Ferry.	3,920	2,063 38	.....	.....	.....	.....	.....	.....	6,177	2,063 38	.....	.....
	Herring Cove.	26,101	12,049 68	.....	.....	.....	.....	.....	.....	26,101	12,049 68	.....	.....
	Ketch Harbour.	4,227	1,690 53	.....	.....	.....	.....	.....	.....	4,227	1,690 53	.....	.....
	Richmond Wharf.	792	182 53	.....	.....	.....	.....	.....	.....	792	182 53	.....	.....
	Roche's Wharf.	1,750	620 28	.....	.....	.....	.....	.....	.....	1,750	620 28	.....	.....
	Halifax Railway Terminus.	35,565	11,056 79	.....	.....	.....	.....	.....	.....	35,565	11,056 79	.....	.....
	Jeddore.	21,515	4,958 56	.....	.....	.....	.....	.....	.....	21,515	4,958 56	.....	.....
Inverness.	North West Arm.	7,350	2,970 39	.....	.....	.....	.....	.....	.....	7,350	2,970 39	.....	.....
	Conard's Wharf.	1,400	530 04	.....	.....	.....	.....	.....	.....	1,400	530 04	.....	.....
	Salmon River.	14,288	5,962 93	.....	.....	.....	.....	.....	.....	14,288	5,962 93	.....	.....
	Spy Bay.	3,075 72	.....	.....	.....	.....	.....	.....	.....	3,075 72	.....	.....	.....
	Eastern Passage.	2,070	596 97	.....	.....	.....	.....	.....	.....	2,070	596 97	.....	.....
	Sombrero.	4,815	1,388 61	.....	.....	.....	.....	.....	.....	4,815	1,388 61	.....	.....
	Whycocomagh.	19,760	3,491 31	.....	.....	.....	.....	.....	.....	19,760	3,491 31	.....	.....
	Campbell's Pond.	4,940	872 83	.....	.....	.....	.....	.....	.....	4,940	872 83	.....	.....
	Port Hastings.	270	190 37	.....	.....	.....	.....	.....	.....	270	190 37	.....	.....
	Cheticamp.	206,275	71,409 02	.....	.....	.....	.....	.....	.....	206,275	71,409 02	.....	.....
Lunenburg	Malou.	312,904	76,990 82	.....	.....	.....	.....	.....	.....	326,800	82,124 26	.....	.....
	Port Hood.	10,103	5,696 99	.....	.....	.....	.....	.....	.....	15,278	10,796 14	.....	.....
	Grand Etang.	10,980	3,431 25	161,992 59	.....	.....	.....	.....	.....	10,980	3,431 25	.....	.....
	Lanenburg.	70,510	22,194 57	.....	.....	.....	.....	.....	.....	70,510	22,194 57	.....	.....
	Malou Bay.	58,019	15,085 29	.....	.....	.....	.....	.....	.....	58,019	15,085 29	.....	.....
	Vogler's Cove.	11,600	5,075 53	42,359 39	.....	.....	.....	.....	.....	11,600	5,075 53	.....	.....
	Acadia Coal Co. Wharf.	22,460	5,262 26	.....	.....	.....	.....	.....	.....	22,460	5,262 26	.....	.....
	Albion Mines.	9,475	2,181 25	.....	.....	.....	.....	.....	.....	9,475	2,181 25	.....	.....
	East River.	144,407	47,696 43	.....	.....	.....	.....	.....	.....	144,407	47,696 43	.....	.....
	Halifax Coal Co. Wharf.	1,650	27,369 22	.....	.....	.....	.....	.....	.....	1,650	27,369 22	.....	.....
Pictou.	Pictou, Pub. Market Wharf.	114,600	22,732 67	.....	.....	.....	.....	.....	.....	114,600	22,732 67	.....	.....
	" Railway	86,699	8,898 40	.....	.....	.....	.....	.....	.....	86,699	8,898 40	.....	.....
	" Landing R'y. "	48,645	246 18	.....	.....	.....	.....	.....	.....	48,645	246 18	.....	.....
	" Steam Ferry Co. Slip.	720	4,153 25	.....	.....	.....	.....	.....	.....	720	4,153 25	.....	.....
	" Bar.	42,700	1,204 29	.....	.....	.....	.....	.....	.....	42,700	1,204 29	.....	.....
	Hogg, Craig & Co. Wf.	6,090	13,584 43	.....	.....	.....	.....	.....	.....	6,090	13,584 43	.....	.....

SESSIONAL PAPER No. 19

[illegible]

7-8 EDWARD VII., A. 1908

EXPENDITURE for Dredging in New Brunswick for the Thirty-fifth Year ended March 31, 1907.

County.	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDED JUNE 30, 1906.				FOR THE NINE MONTHS, 1906-07.				Total Quantity.	Total Cost.	Cost for each County
		Quantity.	Cost.	Cost for County.	Quantity.	Cost.	Cost for County.					
		Cubic yards.	\$ cts.	\$ cts.	\$ cts.	Cubic yards.	\$ cts.	\$ cts.	\$ cts.	Cubic yards.	\$ cts.	\$ cts.
Charlotte Gloucester.	St. Andrews.....	22,920	5,685 41	5,685 41	5,685 41	43,165	9,599 46	9,599 46	9,599 46	66,085	15,284 87	15,284 87
	Bathurst ..	98,637	29,065 79	29,065 79	29,065 79	..	..	..	..	98,637	29,065 79	29,065 79
	Caraguet ..	16,485	6,312 23	6,312 23	6,312 23	..	..	..	..	16,485	6,312 23	6,312 23
	Shippagan ..	64,545	21,452 11	21,452 11	21,452 11	..	..	..	..	64,545	21,452 11	21,452 11
	Richibucto.....	172,778	53,544 01	53,544 01	53,544 01	..	..	..	..	172,778	53,544 01	53,544 01
Kent.....	Cocagne ..	27,180	9,601 45	9,601 45	9,601 45	..	..	..	..	27,180	9,601 45	9,601 45
	Buctouche.....	13,005	4,934 24	4,934 24	4,934 24	..	..	..	..	13,005	4,934 24	4,934 24
	" Priest's Point ..	3,510	1,110 70	1,110 70	1,110 70	..	..	..	..	3,510	1,110 70	1,110 70
	" Chapel ..	4,140	1,310 07	1,310 07	1,310 07	..	..	..	..	4,140	1,310 07	1,310 07
	" Robertson's Wharf.	45	14 23	14 23	14 23	..	..	..	..	45	14 23	14 23
King's ..	Bellisle Point.....	79,905	13,052 23	13,052 23	13,052 23	..	..	..	..	79,905	13,052 23	13,052 23
	Kennebecasis River ..	116,270	20,081 83	20,081 83	20,081 83	..	..	..	..	116,270	20,081 83	20,081 83
	Moss Glen.....	10,200	1,924 47	1,924 47	1,924 47	..	..	..	..	10,200	1,924 47	1,924 47
	Westfield ..	1,300	362 19	362 19	362 19	..	..	..	..	1,300	362 19	362 19
	Glenwood Wharf.....	28,600	2,417 77	2,417 77	2,417 77	..	..	..	..	28,600	2,417 77	2,417 77
Northumberland	Shamper's " ..	4,700	703 07	703 07	703 07	..	..	..	..	4,700	703 07	703 07
	Jonkin's Cove.....	13,650	1,720 64	1,720 64	1,720 64	..	..	..	..	13,650	1,720 64	1,720 64
	Cedars ..	15,750	1,287 35	1,287 35	1,287 35	..	..	..	..	15,750	1,287 35	1,287 35
	Evandale ..	..	..	..	..	..	..	..	..	..	..	..
	Oak Point ..	..	..	..	..	..	..	..	..	..	..	..
Northumberland	Victoria Wharf ..	208,892	55,058 36	55,058 36	55,058 36	..	..	..	..	208,892	55,058 36	55,058 36
	Horse Shoe, Miramichi ..	29,935	7,965 31	7,965 31	7,965 31	..	..	..	..	29,935	7,965 31	7,965 31
	Outer Bar ..	37,975	10,121 67	10,121 67	10,121 67	..	..	..	..	37,975	10,121 67	10,121 67
	Grand Inue ..	22,425	4,403 95	4,403 95	4,403 95	..	..	..	..	22,425	4,403 95	4,403 95
	Grand Flats ..	6,300	3,069 76	3,069 76	3,069 76	..	..	..	..	6,300	3,069 76	3,069 76
Queen's ..	Negus ..	215,232	36,085 41	36,085 41	36,085 41	..	..	..	..	215,232	36,085 41	36,085 41
	Grand Lake ..	20,440	4,522 82	4,522 82	4,522 82	..	..	..	..	20,440	4,522 82	4,522 82
	McNair's Cove ..	87,250	17,190 06	17,190 06	17,190 06	..	..	..	..	87,250	17,190 06	17,190 06
	Washademoak ..	65,675	8,073 65	8,073 65	8,073 65	..	..	..	..	65,675	8,073 65	8,073 65
	Cambridge Whf. ..	2,900	1,073 31	1,073 31	1,073 31	..	..	..	..	2,900	1,073 31	1,073 31
Northumberland	" " ..	4,840	985 20	985 20	985 20	..	..	..	..	4,840	985 20	985 20
	" " ..	270	212 72	212 72	212 72	..	..	..	..	270	212 72	212 72
	" " ..	5,000	764 58	764 58	764 58	..	..	..	..	5,000	764 58	764 58
	" " ..	5,750	422 14	422 14	422 14	..	..	..	..	5,750	422 14	422 14
	" " ..	8,290	2,557 52	2,557 52	2,557 52	..	..	..	..	8,290	2,557 52	2,557 52

SESSIONAL PAPER No. 19

Grimross, M. ground.....	2,040	3,274 99	12,040	3,274 99
Gagetown Creek Canal.....	45,985	7,739 97	45,985	7,739 97
Spoon Island.....	9,315	1,192 36	9,315	1,192 36
Ward's Shoal, Salmon River.....	46,625	4,593 59	46,625	4,593 59
Carley Shoal.....	36,625	3,369 16	36,625	3,369 16
Chipman & Briggs' Corner.....	104,275	12,269 49	104,275	12,269 49
Upper Gagetown Wharf.....	1,700	1,104 90	1,700	1,104 90
McClure Shoal.....	38,525	4,556 66	38,525	4,556 66
Queen's Coal Co., Newcastle	14,475	1,335 06	14,475	1,335 06
Hampstead.....				
Belyea's Wharf.....		1,200		401 36
Dalhousie.....		1,86		693 25
" " " "		102,776 0.		
" " " "			3,568 13	
McManus Contract.....	22,301	6, 43 0		
" " " "	13,336	1,8 5 6		
" " " "	8,460	1,2 6 4		
Ferry Landing.....	12,991	3,632 38		
" " " "	3,836	1,277 7		
Hillyards.....				
Traverse.....	118,800	22,980 6		
" " " "	2,100	1,020 58		
Oak Point.....	1,750	620 96		
Campbellton, Govt. Wharf.....	9,800	2,254 11		
" " " "				
Basin.....		41,358 62		
I. C. Ry. Terminus.....	212,242	52,633 18	18,37	10,354 33
Navy Island.....	25,294	3,296 73		
Marble Cove.....	24,925	4,374 40	9,375	2,800 67
Murray's Mills.....	27,355	3,681 41		
Indianatown Wharf.....	1,615	192 83		
Long ".....	7,137	2,680 24		
Miller & Woodman's.....	9,275	1,090 42		
Hayford & Stetson.....	8,015	942 29		
Indianatown Wharf.....	450	52 90		
Adam's ".....	7,315	3,247 29	450	52 90
Anchor Line.....	4,695	996 81	7,315	3,247 29
Dominion Atlantic Wharf.....	15,525	4,484 72	4,695	996 81
St. John, Winter Berths.....	489,503	81,451 16	15,525	4,484 72
Parves & Murellie Mills.....	8,413	5,063 92	489,503	81,451 16
McAvity Wharf.....	4,110	142 57	8,413	5,063 92
Lawton's ".....	570	606 88	4,110	142 57
Tierne ".....	1,980	101 46	570	606 88
Maritime Nail Co. Wharf.....	1,425	234 02	1,980	101 46
Cushing's Mills.....	20,850	1,222 86	1,425	234 02
Hilyard Bros.....	1,400	314 10	20,850	1,222 86
Kennebecasis River.....	2,025	704 37	1,400	314 10
Partridge Island.....	4,650	2,294 22	2,025	704 37
" " " "	8,215	5,173 82	4,650	2,294 22
Channel for water pipe.....	395,447	66,427 58	8,215	5,173 82
Oromocto.....	625	181 59	395,447	66,427 58
McLean Wharf.....	51,800	5,266 50	625	181 59
Ox Island.....	3,787 49	25,475	51,800	5,266 50
French Lake.....	2,310	428 44	3,787 49	25,475
Bent's Wharf, Mangerville.....			2,310	428 44

106,344 20

51,712 95

183,982 85

7-8 EDWARD VII., A. 1908

EXPENDITURE for Dredging in New Brunswick for the Thirty-fifth Year ended March 31, 1907—Continued.

County.	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDED JUNE 30, 1906.				FOR THE NINE MONTHS, 1906-07.				Total Quantity.	Total Cost.	Cost for each County
		Quantity.	Cost.	Cost for County.	Quantity.	Cost.	Cost for County.	Quantity.	Cost.			
		Cubic yards.	\$ cts.	\$ cts.	Cubic yards.	\$ cts.	\$ cts.	Cubic yards.	\$ cts.			\$ cts.
Sunbury— <i>Con.</i> Westmoreland.	Upper Sheffield.....	3,830	425 15	76,516 75	.....	.....	.....	3,830	425 15			76,516 75
	Point du Chene.....	182,980	42,162 18	.....	.....	.....	.....	182,980	42,162 18			
York.....	Cape Tormentine.....	35,120	9,004 92	51,167 10	.....	.....	.....	35,120	9,004 92			51,167 10
	Fredericton.....	126,365	21,679 06	.....	.....	.....	.....	126,365	21,679 06			
	St. Mary's Ferry.....	15,570	6,827 36	.....	.....	.....	.....	15,570	6,827 36			
	Gibson.....	30,395	4,379 52	.....	.....	.....	.....	30,395	4,379 52			
	Nashwaak.....	1,600	435 22	.....	.....	.....	.....	1,600	435 22			
	Fisher & Chestnut Shoals.....	8,200	1,547 12	.....	.....	.....	.....	8,200	1,547 12			
Totals.....	Canada Eastern Railway Whf. Springhill, Chapel & Russel Bars.....	3,970	1,013 98	.....	.....	.....	.....	3,970	1,013 98			
	Robinson's Bar.....	96,295	24,386 78	.....	.....	.....	.....	96,295	24,386 78			
	Douglas Booms.....	6,965	1,717 16	.....	.....	.....	.....	6,965	1,717 16			63,499 07
	New Brunswick equipment.....	14,235	1,512 87	63,499 07	.....	.....	.....	14,235	1,512 87			1,591 12
		.....	1,591 12	.....	.....	.....	.....	.....	.....
		3,794,737	777,159 75	777,159 75	120,095	31,538 51	31,538 51	3,914,852	808,698 26			808,698 26

SESSIONAL PAPER No. 19

EXPENDITURE FOR DREDGING IN PRINCE EDWARD ISLAND FOR THE THIRTY-FIFTH YEAR ENDING MARCH 31, 1907.

County.	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDING JUNE 30, 1906.				FOR THE NINE MONTHS, 1906-07.				Total Quantity.	Total Cost.	Cost for each County.
		Quantity.		Cost.		Quantity.		Cost.				
		Cubic yards.	\$	cts.	%	Cubic yards.	\$	cts.	%			
King's.	Grand River.....	76,170	15,394	01	.....	.....	.....	.....	76,170	15,394 04	.....
	Montague River.....	182,285	36,547	47	.....	.....	.....	.....	182,285	36,547 47	.....
	Murray Harbour South.....	101,253	18,147	03	.....	.....	.....	.....	101,253	18,147 03	.....
	Sturgeon.....	16,026	6,066	27	.....	.....	.....	.....	16,026	6,066 27	.....
	St. Mary's Wharf.....	21,963	4,752	51	.....	.....	.....	.....	21,963	4,752 51	.....
	Georgetown Ry. Wharf.....	1,002	408	32	.....	.....	.....	.....	1,002	408 32	.....
	" Queen's Wharf.....	1,328	80	.....	.....	.....	.....	.....	1,328	80	.....
	Cardigan Bridge.....	35,955	8,619	36	.....	.....	.....	.....	35,955	8,619 36	.....
	Newport.....	3,240	917	82	.....	.....	.....	.....	3,240	917 82	.....
	Souris.....	3,825	1,083	53	.....	.....	.....	.....	3,825	1,083 53	.....
	Murray River.....	43,447	11,985	49	.....	.....	.....	.....	43,447	11,985 49	.....
	" Railway.....	5,926	1,860	30	.....	.....	.....	.....	5,926	1,860 30	.....
	Morell.....	43,335	11,972	59	118,993 57	.....	.....	.....	43,335	11,972 59	.....
	Charlottetown Ry. Wharf.....	105,706	30,318	31	8,685	3,638	29	125,991	33,956 60
Queen's.	Powwal.....	23,710	4,944	58	.....	.....	.....	.....	23,710	4,944 58	.....
	" Ferry.....	10,075	2,006	99	.....	.....	.....	.....	10,075	2,006 99	.....
	" Steam Nav. Co.....	13,113	5,491	77	.....	.....	.....	.....	13,113	5,491 77	.....
	" Comodly Whf.....	9,978	4,469	68	.....	.....	.....	.....	* 9,978	4,469 68	.....
	" Peake Bros.....	13,995	5,856	02	.....	.....	.....	.....	13,995	5,856 02	.....
	" Queen St. Slip.....	3,915	1,109	03	.....	.....	.....	.....	3,915	1,109 03	.....
	" G. & O. Peake's Wharf.....	6,885	2,232	03	.....	.....	.....	.....	6,885	2,232 03	.....
	" Poole Wharf.....	12,240	1,609	95	.....	.....	.....	.....	12,240	1,609 95	.....
	" McMillan.....	6,165	1,320	13	.....	.....	.....	.....	6,165	1,320 13	.....
	" Dom. Building Sewer.....	5,355	1,146	68	.....	.....	.....	.....	5,355	1,146 68	.....
	" Pub. Sewerage Wharf.....	2,880	679	12	.....	.....	.....	.....	2,880	679 12	.....
	" Geo. E. Full's Wharf.....	11,520	3,001	96	.....	.....	.....	.....	11,520	3,001 96	.....
	" Carvell Bros.....	2,880	798	04	.....	.....	.....	.....	2,880	798 04	.....
	" Falconwood Asylum Whf.....	14,025	3,885	91	14,025	3,885 91
Webster's Corner, East River	.....	203	43	47	.....	.....	.....	.....	203	43 47	.....
	118,040	34,574	90	20,490	7,679	06	138,490	42,253 96
	33,610	6,536	20	9,855	3,844	08	43,465	10,380 28
Powwal Bay.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
											118,993 57

7-8 EDWARD VII., A. 1908

EXPENDITURE for Dredging in Prince Edward Island for the Thirty-fifth Year ending March 31, 1907—*Concluded.*

County.	Locality.	TOTAL FOR THE THIRTY-FOUR YEARS ENDED JUNE 30, 1906.				FOR THE NINE MONTHS, 1906-07.				Total Quantity.	Total Cost.	Cost for each County.
		Quantity.	Cost.		Cost for County.	Quantity.	Cost.		Cost for County.			
			Cubic yards.	%			cts.	Cubic yards.			%	cts.
Queen's—Con	Rock Point.....	82,920	13,426	13	.....	Cubic yards.	.....	.....	82,920	13,426	13	cts.
	Vernon River.....	25,240	8,292	55	.....	.....	.....	.....	25,240	8,292	55	.....
	Wood Islands.....	8,405	11,801	57	.....	.....	.....	.....	8,405	11,801	57	.....
	Nine Mile Creek.....	31,650	6,286	46	.....	.....	.....	.....	31,650	6,286	46	.....
	Hickey Wharf.....	750	150	51	.....	.....	.....	.....	750	150	51	.....
	Carr's Point.....	12,165	2,441	28	.....	.....	.....	.....	12,165	2,441	28	.....
	Pinette.....	3,825	756	24	.....	.....	.....	.....	3,825	756	24	.....
	Fort Augustus.....	3,125	631	68	.....	.....	.....	.....	3,125	631	68	.....
	Southport Ferry.....	45,300	7,508	75	.....	.....	.....	.....	45,300	7,508	75	.....
	Red Point.....	7,161	3,879	60	.....	.....	.....	.....	7,161	3,879	60	.....
	North Rustico.....	13,536	4,775	38	.....	.....	.....	.....	13,536	4,775	38	.....
	South Rustico.....	11,649	4,109	67	.....	.....	.....	.....	11,649	4,109	67	.....
	Candler's Creek.....	17,847	8,305	50	.....	.....	.....	.....	17,847	8,305	50	.....
	French River.....	41,671	13,311	46	.....	.....	.....	.....	41,671	13,311	46	.....
	Malheque.....	28,575	3,483	32	.....	.....	.....	.....	28,575	3,483	32	.....
	Pay View.....	4,065	1,912	87	.....	.....	.....	.....	4,065	1,912	87	.....
	Wedlocks.....	1,260	520	48	.....	.....	.....	.....	1,260	520	48	.....
	Belfast, Halliday's Wharf.....	15,435	4,468	78	.....	.....	.....	.....	15,435	4,468	78	.....
	Summerside.....	91,571	28,032	51	.....	.....	.....	.....	91,571	28,032	51	.....
	Hurd's Point Pier.....	63,506	14,315	47	.....	.....	.....	.....	63,506	14,315	47	.....
	Tignish.....	11,387	13,005	45	.....	.....	.....	.....	11,387	13,005	45	.....
Casumpec.....	1,157	538	42	.....	.....	.....	.....	1,157	538	42	.....
Cape Traverse.....	16,740	5,105	89	.....	.....	.....	.....	16,740	5,105	89	.....
Holman's Wharf.....	9,585	1,269	21	.....	.....	.....	.....	9,585	1,269	21	.....
	Totals.....	1,479,483	383,671	31	.....	53,615	19,047	37	.....	1,533,098	402,718	68
Prince.....										221,458	16	221,458 16
												62,266 95
												402,718 68

Prince.....

STATEMENT of Dredging, showing Quantities Removed in each Province, and Cost of each Work for the Thirty-fifth Year ended March 31, 1907.

Fiscal Year.	NEW BRUNSWICK.		NOVA SCOTIA.		QUEBEC.		PRINCE EDWARD ISLAND.		Total Quantity, Cubic Yards.	Total Expenditure.		Cost per Cubic Yard.
	Quantity.	Cost. \$ cts.	Quantity.	Cost. \$ cts.	Quantity.	Cost. \$ cts.	Quantity.	Cost. \$ cts.		\$	cts.	
1872-3.	38,060	13,240 50	23,260	8,422 70	.....	.....	.....	.....	61,320	21,063 20	0	35 328
1873-4.	57,725	14,395 57	18,690	6,545 61	.....	.....	.....	.....	76,415	23,334 10	0	28 71
1874-5.	78,223	17,325 05	24,416	13,268 83	6,800	2,392 92	.....	.....	121,291	40,454 77	0	33 35
1875-6.	73,935	17,040 32	91,975	21,835 90	.....	.....	18,655	9,892 89	220,192	49,818 22	0	21 612
1876-7.	97,690	23,161 90	127,789	31,846 74	.....	.....	58,283	10,891 80	299,353	70,766 31	0	23 334
1877-8.	81,070	23,323 92	106,857	29,607 94	.....	.....	127,789	12,011 18	270,787	64,943 04	0	23 983
1878-9.	132,555	27,400 22	116,397	28,267 59	.....	.....	82,860	16,440 90	265,352	64,831 88	0	24 197
1879-1880.	63,540	16,581 79	127,684	34,765 84	.....	.....	36,390	9,164 07	228,379	61,396 69	0	28 331
1880-1.	44,315	12,385 85	87,118	23,061 64	765	374 08	46,335	9,298 53	180,085	45,439 46	0	25 232
1881-2.	79,640	18,626 87	89,566	33,363 71	2,317	673 44	47,325	9,356 57	216,531	61,347 15	0	28 890
1882-3.	48,565	13,422 70	143,616	32,996 93	.....	.....	68,535	11,080 37	280,716	67,500 00	0	27 959
1883-4.	128,997	24,460 35	157,560	49,090 58	.....	.....	79,750	13,355 05	284,368	79,009 01	0	32 242
1884-5.	68,505	14,874 63	76,164	25,250 73	8,123	3,997 59	55,075	8,668 01	268,239	62,376 68	0	33 56
1885-6.	69,440	11,452 86	53,400	25,621 19	.....	.....	6,137	6,214 74	128,977	43,288 79	0	37 29
1886-7.	50,120	9,252 50	84,175	20,847 60	.....	.....	3,775	5,899 90	138,102	45,000 00	0	30 23
1887-8.	63,633	16,598 93	59,783	22,821 55	.....	.....	21,240	15,562 95	177,273	54,451 87	0	32 249
1888-9.	86,068	20,544 93	61,698	24,368 57	.....	.....	19,004	8,843 92	177,290	53,065 35	0	36 44
1889-1890.	96,388	20,375 06	81,993	27,376 08	.....	.....	31,352	13,112 83	188,398	60,757 27	0	31 46
1890-1.	75,023	20,392 85	40,834	18,125 58	.....	.....	66,585	12,269 24	215,354	56,980 67	0	26 65
1891-2.	108,035	23,742 26	59,581	28,664 99	.....	.....	61,536	10,428 90	198,622	62,498 50	0	31 63
1892-3.	77,505	21,564 27	105,463	32,202 70	.....	.....	48,060	10,299 93	213,693	56,261 71	0	27 73
1893-4.	59,715	13,630 11	36,428	15,828 89	.....	.....	36,360	10,937 62	171,693	67,468 94	0	38 31
1894-5.	89,965	21,352 63	84,735	22,080 46	.....	.....	51,978	10,791 49	339,788	63,810 23	0	32 50
1895-6.	203,975	34,050 86	147,085	31,497 57	.....	.....	46,710	13,283 71	381,120	83,228 34	0	26 91
1896-7.	187,825	27,611 17	135,710	36,628 81	.....	.....	51,040	17,537 37	311,608	87,740 59	0	29 69
1897-8.	165,678	28,252 46	152,033	37,589 22	.....	.....	94,364	26,020	422,332	83,959 41	0	25 44
1898-9.	175,935	32,615 29	143,142	39,247 35	.....	.....	51,230	16,196 95	325,946	85,953 27	0	22 49
1899-1900.	205,369	36,195 40	134,648	32,856 98	.....	.....	26,020	16,196 95	405,682	85,212 66	0	25 44
1900-1.	218,210	36,195 40	143,142	39,247 35	.....	.....	51,230	16,196 95	387,798	100,992 94	0	25 44
1901-2.	197,297	36,195 40	143,142	39,247 35	.....	.....	51,230	16,196 95	396,900	100,992 94	0	25 44
1902-3.	252,723	46,348 89	203,490	33,339 47	.....	.....	49,500	13,775 37	430,445	106,832 18	0	21 58
1903-4.	224,035	31,538 51	176,321	61,281 54	.....	.....	33,030	17,123 82	396,577	120,072 24	0	31 96
1904-5.	224,035	31,538 51	176,321	61,281 54	.....	.....	60,683	11,089 96	396,577	111,570 12	0	25 41
1905-6.	224,035	31,538 51	176,321	61,281 54	.....	.....	53,615	19,047 37	390,631	2,288,354 51	0	25 41
1906-7.	224,035	31,538 51	176,321	61,281 54	.....	.....	53,615	19,047 37	390,631	2,288,354 51	0	25 41
Totals.	3,913,854	806,402 18	3,545,765	1,031,327 11	18,065	7,458 63	1,533,099	402,786 00	9,004,732	2,288,354 51	0	25 41

SESSIONAL PAPER No. 19

STATEMENT of dredging in the Maritime Provinces showing quantities removed by and expenditure of each dredge during the thirty-four years and nine months ending March 31, 1907.

Dredge.	TOTAL QUANTITIES AND COST FOR THIRTY-FOUR YEARS ENDING JUNE 30, 1906.				NINE MONTHS 1906-07.				TOTAL FOR THIRTY-FOUR YEARS AND NINE MONTHS ENDED MARCH 31, 1907.			
	Total Quantity.	Cost.	Per cubic yard.		Quantity.	Cost.	Per cubic yard.		Total Quantity.	Total cost.	Cost per cubic yard.	
			\$	cts.			\$	cts.			\$	cts.
St. Lawrence.....	1,685,619	427,298 43	0.	25 35	24,325	12,275 45	0.	50 46	1,709,944	439,573 88	0.	25 70
Canada.....	1,102,589	345,656 01	0.	31 34	9,850	10,036 52	1.	01 89	1,112,439	353,692 53	0.	31 97
New Dominion.....	1,798,087	314,212 86	0.	17 47	52,540	12,460 13	0.	23 71	1,850,627	328,672 99	0.	17 65
Prince Edward.....	1,463,123	382,879 25	0.	26 53	33,165	11,368 31	0.	34 27	1,476,288	394,247 56	0.	26 69
(Old) Cape Breton.....	534,988	139,074 33	0.	25 99	.....	.....	.....	.....	534,988	139,074 33	0.	25 99
Geo. McKenzie.....	777,802	324,025 00	0.	41 06	19,071	10,422 59	0.	54 65	796,873	33,443 59	0.	43 22
Cape Breton.....	833,600	141,546 76	0.	16 58	37,300	20,840 61	0.	55 88	890,950	162,387 37	0.	41 65
New Brunswick.....	363,545	79,339 29	0.	21 82	49,180	8,724 05	0.	17 73	412,725	88,063 34	0.	21 33
W. S. Fielding.....	83,440	15,956 57	0.	19 12	104,150	18,063 70	0.	17 34	187,590	34,020 27	0.	18 13
Montague.....	.....	.....	.....	.....	20,450	7,679 06	0.	37 55	20,450	7,679 06	0.	37 55
	8,642,733	2,169,986 50	0.	25 11	350,031	111,870 42	0.	31 96	8,992,824	2,281,856 92	0.	25 37

STATEMENT of dredging performed by hand in the Maritime Provinces showing quantities removed and expenditure at each locality for thirty-four years and nine months ending March 31, 1907.

Locality.	TOTAL QUANTITIES AND COST FOR THIRTY-FOUR YEARS ENDING JUNE 30, 1906.				NINE MONTHS 1906-07.				Total Quantity.		Total cost.		Cost per cubic yard.	
	Total Quantity.	Cost.	Per cubic yard.		Quantity.	Cost.	Per cubic yard.				\$	cts.	\$	cts.
			\$	cts.			\$	cts.						
Parsonsboro, N. S.	42,545	12,804 68	0.	30 06					42,545		12,804 68	0.	30 06	
Windsor, "	5,450	1,627 60	0.	29 86					5,450		1,627 60	0.	29 86	
Milton, "	663	499 46	0.	75 33					663		499 46	0.	75 33	
Racquette, "	1,645	496 38	0.	30 17					1,645		496 38	0.	30 17	
	50,353	15,428 12	0.	30 64					50,353		15,428 12	0.	30 64	

7-8 EDWARD VII., A. 1908

Cost at localities dredged during the nine months ended 31st March, 1907.

DREDGE 'ST. LAWRENCE.'

Locality.	Date.	Actual Dredging Time.	Quantity.	Cost.	Cost per Cubic Yard.
		Hrs. Min.	C. yds.	\$ cts.	\$ cts.
Railway wharf, Pictou Co., N.S.	28th July to 7th August, 1906.	36 00	5,950	488 19	0 08-20
Campbellton, Restigouche Co., N.B.	8th to 14th and 19th Aug. to 4th Oct. and 6th to 25th Oct.	132 20	18,375	2,631 75	0 14-32

DREDGE 'CANADA.'

Windsor, Hants Co., N.S.	1st July to 5th November, 1906.	117 31	7,830	3,863 85	0 49-34
Yarmouth, Yarmouth Co., N.S.	20th December to 5th January, 1907.	23 16	2,020	549 13	0 27-18

DREDGE 'NEW DOMINION.'

St. Andrews, Charlotte Co., N.B.	1st July to 11th December, 1906.	867 35	43,165	7,610 22	0 17-63
Navy Island Bar, St. John, N.B.	28th January to 31st March, 1907.	135 00	9,375	2,267 87	0 24-19

DREDGE 'PRINCE EDWARD.'

Railway wharf, Charlottetown, P.E.I.	1st to 23rd July and 5th to 24th Sept., 1906.	159 46	8,085	1,823 17	0 20-99
Falconwood, Queen's Co., P.E.I.	24th July to 4th Sept., 1906.	195 50	14,625	1,947 27	0 13-31
Pownal, Queen's Co., P.E.I.	25th Sept. to 8th Nov., 1906.	184 21	9,855	1,926 20	0 19-54

DREDGE 'GEO. MCKENZIE.'

Mahon, Inverness Co., N.S.	1st July to 22nd Sept., 1906.	341 30	13,896	2,645 66	0 19-04
Port Hood, Inverness Co., N.S.	23rd September to 31st October, 1906.	119 00	5,175	2,534 19	0 48-97

SESSIONAL PAPER No. 19

Cost at localities dredged during the nine months ended 31st March, 1907.

DREDGE 'CAPE BRETON.'

Locality.	Date.	Actual Dredging Time.	Quantity.	Cost.	Cost per Cubic Yard.
		Hrs. Min.	C. yds.	\$ cts.	\$ cts.
North Pond, Red Islands, Richmond Co., N.S.	1st July to 8th October, 1906.	186 00	21,900	7,416 83	0 33-87
Whitney pier, Sydney, C. B. County.	19th and 20th October, 1906.	12 00	600	170 86	0 28-47
Steel and Coal Co., Sydney, C. B. County.	9th to 18th and 21st October to 18th December, 1906.	136 00	14,800	5,078 73	0 34-31

DREDGE 'NEW BRUNSWICK.'

Cedars, King's Co., N. B.	1st to 11th July, 1906.	71 00	3,950	381 67	0 09-66
Evandale, King's Co., N. B.	12th July 1906.	7 00	75	38 79	0 51-72
Hampstead, Queen's Co., N. B.	13th to 18th July, 1906.	51 00	1,200	231 65	0 19-30
Belyea's wharf, Queen's Co., N. B.	19th to 27th July, 1906.	72 00	1,805	351 63	0 18-85
Colwell's Creek, Washadenook, Queen's Co., N. B.	28th July to 8th Sept., 1906.	270 00	8,290	1,476 10	0 17-80
Oak Point, King's Co., N. B.	9th Sept. to 8th Oct., 1906.	57 30	12,100	1,142 23	0 09-44
Victoria wharf, King's Co., N. B.	9th Oct. to 23rd Nov., 1906.	291 00	21,700	1,413 12	0 06-51

DREDGE 'W. S. FIELDING.'

Yarmouth, Yarmouth Co., N.S.	1st July to 3rd Aug., 1906.	53 58	33,250	2,546 61	0 07-66
Pictou Bar, Pictou Co., N.S.	1st Sept. to 4th Dec., 1906.	147 05	70,900	7,725 81	0 10-89

DREDGE 'MONTAGUE.'

Victoria, Crapaud, Queen's Co., P.E.I.	6th Sept. to 14th Nov., 1906.	253 30	20,450	4,277 14	0 20-91
--	-------------------------------	--------	--------	----------	---------

7-8 EDWARD VII., A. 1908

COST AT LOCALITIES DREDGED IN THE MARITIME PROVINCES.
During the Nine months ended March 31, 1907.

Dredge.	Locality.	Date.	Time Dredging.	Quantity. C. yds.	Cost.		Cost per Cubic Yrd.	
					\$	cts.	\$	cts.
St. Lawrence...	Railway wharf, Picton, N.S.	July 28 to Aug. 7, 1906	36 00	5,950	488 19		0 08 20	
	Campbellton, Restigouche Co., N.B.	Aug. 8 to 14, 19 to Oct. 4, and 6 to 25, 1906	132 20	18,375	2,631 73		0 14 32	
Canada	Windsor, Hants Co., N.S.	July 1 to Nov. 5, 1906	117 31	7,830	3,863 85		0 49 34	
	Yarmouth, Yarmouth Co., N.S.	Dec. 20, 1906, to Jan. 5, 1907	23 16	2,020	549 13		0 27 18	
New Dominion	St. Andrews, Charlotte Co., N.B.	July 1 to Dec. 11, 1906	867 35	43,165	7,610 22		0 17 63	
	Navy Island Bar, St. John Co., N.B.	Jan. 28 to March 31, 1907	135 00	9,375	2,267 87		0 24 19	
Prince Edward	Railway wharf, Charlottetown, Queen's Co., P.E.I.	July 1 to 23 and Sept. 5 to 24, 1906	159 46	8,685	1,823 17		0 20 99	
	Paleonwood, Queen's Co., P.E.I.	Sept. 20 to Sept. 4, 1906	195 50	14,625	1,947 27		0 13 31	
	Pownal, Inverness Co., N.S.	Sept. 20 to Nov. 8, 1906	184 21	9,855	1,926 29		0 19 54	
Geo. McKenzie.	North Hood	July 1 to Sept. 23, 1906	341 30	13,896	2,645 66		0 19 04	
	Fort Hood	Sept. 23 to Oct. 31, 1906	119 00	5,175	2,534 19		0 48 97	
Cape Breton	Whitney Pier, Sydney, Cape Breton Co., N.S.	Oct. 19 and 20, 1906	186 00	21,900	7,416 83		0 33 87	
	Steel & Coal Co., Sydney, Cape Breton Co., N.S.	Oct. 9 to 18, and 21 to Dec. 18, 1906	12 00	600	7,170 86		0 28 47	
New Brunswick.	Cedars, King's Co., N.B.	July 1 to 11, 1906	136 00	14,800	5,678 73		0 31 31	
	Evandale, King's Co., N.B.	July 12, 1906	71 00	3,950	381 67		0 09 66	
	Hampstead, Queen's Co., N.B.	July 13 to 18, 1906	7 00	75	38 79		0 51 72	
	Belyea's wharf, Queen's Co., N.B.	July 19 to 27, 1906	51 00	1,200	231 63		0 19 30	
	Colwell's Creeks, Washademoak, Queen's Co., N.B.	July 28 to Sept. 8, 1906	72 00	1,865	351 63		0 18 85	
	Oak Point, King's Co., N.B.	Sept. 9 to Oct. 8, 1906	270 00	8,290	1,476 10		0 17 80	
	Victoria wharf, King's Co., N.B.	Oct. 9 to Nov. 23, 1906	57 30	12,100	1,142 23		0 09 44	
W. S. Fielding.	Yarmouth, Yarmouth Co., N.S.	July 1 to Aug. 3, 1906	291 00	21,700	1,413 12		0 66 51	
	Picton Bar, Picton Co., N.S.	Sept. 1 to Dec. 4, 1906	53 58	33,250	2,546 61		0 07 66	
Montague	Victoria, Chapeaud, Queen's Co., P.E.I.	Sept. 6 to Nov. 14, 1906	147 05	70,900	7,725 81		0 10 89	
			253 30	20,450	4,277 14		0 20 91	

SESSIONAL PAPER No. 19

PROVINCE OF QUEBEC.

DREDGING AT BATISCAN RIVER.

Dredge No. 6, *Prendergast*, worked at this place from July 1 to August 29, 1906. The work done consisted of dredging 800 feet from entrance of St. Lawrence river, at Grogan's mill, below the bridge. The length of cut made was 1,500 feet long, 50 feet wide and 10 feet deep below zero. The quantity of material removed was 56,200 cubic yards of clay and sand.

DREDGING AT BEAUHARNOIS.

From July 1 to November 24, 1906, the close of navigation, the dredge *Quebec* worked at this place, dredging at Thibaudreau's Point, at the entrance of River St. Louis, making a channel 150 feet wide and 8 feet deep below zero, and 2,000 feet long. This work is intended to make an outlet to Lake St. Louis to clean out corrupted water coming from woollen factories. Work was also performed at Kilgour's wharf, at the village, deepening to ten feet at low water at the wharf to allow different boats to approach. 72,640 cubic yards of clay and rock were removed.

DREDGING AT BELOEIL.

The dredge *Richelieu* worked at this place from August 30 to September 5, and between October 7 and 16, 1906. The work was done in front of Brunelle's, and the town wharfs. Four cuts were made: 120, 199, 65 and 50 feet long, 20 feet wide and 8 feet deep at low water. The material removed was 2,975 cubic yards of sand, gravel clay and hard-pan.

DREDGING AT BERTHIERVILLE.

Work was performed at this place by the dredge *Little Giant* between November 18 and 24, 1906, the close of navigation. Work was done in the Bayonne river, at Marceau's mill, making a channel for timber transportation. Also at Cazabon's point three miles above the town, making a channel for ferry and other boats. Work was also done at head of Hay island, four miles above the town. The material removed was 47,440 cubic yards of clay, sand and boulders.

DREDGING AT BLANCHE SHOALS.

The dredge *T.F.M. No. 1* worked at this place from July 1 to November 23, 1906, the close of navigation. The work performed consisted in making a channel for passenger and other boats through a sand shoal, which when completed will have width of 200 feet and a depth of 14 feet below zero. Fifty-five thousand one hundred cubic yards of clay and sand were removed.

Dredging was also performed at this place by the dredge *T.F.M. No. 2* between July 1 and November 23, 1906, the close of navigation. The work done is similar to what is being performed by the dredge *T.M.F. No. 1*. The amount of material taken out was 52,726 cubic yards of clay and sand.

DREDGING AT CHAMBLY BASIN.

Between July 1 and August 29, 1906, the dredge *Richelieu* worked at this place. Seven cuts were made, four 800 feet long, two 250 feet long and one 334 feet long, 20 feet wide and 8 feet deep at low water. All these cuts were made in the channel at the foot of the locks.

The material removed was 16,650 cubic yards of clay, sand and boulders.

7-8 EDWARD VII., A. 1908

DREDGING AT CHATEAUGUAY.

From September 14 to November 17, 1906, the close of navigation, the dredge *Central City* worked at this place. One cut was made, 5,400 feet long, 35 feet wide and 10 feet deep below zero, at the head of Nun's Island, towards Lake St. Louis. The quantity of material removed was 21,510 cubic yards of sand, clay, hard-pan and boulders.

DREDGING AT CHICOUTIMI.

Between July 9 and August 25, and October 15 and November 9, 1906, the close of navigation, the dredge *Progress* worked at this place. The work performed consisted of dredging in the main channel about five miles below Chicoutimi. Several cuts were made through sand shoals to a depth of 17 feet at low water. The material removed was 37,800 cubic yards of clay, sand and boulders.

DREDGING AT COMO.

From August 23 to September 23, 1906, the dredge *Canada* worked at this place. The work consisted of dredging at Hodgins' Mill and at the wharf to accommodate passenger boats and loading of barges. The depth made was 8 feet at low water. Fourteen thousand and ninety cubic yards of clay were removed.

DREDGING AT DOUCET'S LANDING.

Dredge *No. 5 McDonald* worked at this place between August 1 and 31, 1906. The work consisted in deepening and widening the basin, and in front of the wharf. The depth made was 13 feet at low water. Twenty thousand five hundred and eighty-four cubic yards of clay and sand were removed.

Dredge *No. 6 McDonald* also worked at this place from September 1 to November 24, 1906, the close of navigation. One cut was made in the basin, 1,100 feet long and 350 feet wide. One cut was also made in the front of the wharf, 250 feet long and 60 feet wide. The depth made was 13 feet at low water. The quantity of material removed was 85,660 cubic yards of clay and sand.

DREDGING AT GODFROYE RIVER.

Dredging was done at this place by the dredge *St. Pierre* from September 17 to November 17, 1906, the close of navigation. The work consisted in deepening and widening the channel above the wharf to accommodate ferry boat and barges. The depth made was 8 feet at low water. 38,770 cubic yards of clay, sand and boulders were removed.

DREDGING IN LAKE ST. JOHN.

Dredging at Roberval is done by dredge *Lac St. Jean*, assisted by tug *Marie-Louise*.

During the year 1904-5, the dredge, then called *P. V. Savard*, was rebuilt; a new hull was constructed partly in British Columbia pine and spruce. The anchor posts, chains, wire ropes were renewed. The tug *Marie-Louise* was repaired and a new engine put in; the two dumping scows were repaired. Expenditure, \$6,000.

The work done in 1905-6 was, during the summer, at Rivière à la Pipe, and consisted in the sinking of three piers and a turning basin for boats. For the balance of the season, the dredge was employed at the entrance of the Roberval harbour.

During the fiscal year 1906-7, dredging was done in the harbour and in the entrance of the harbour. The quantity of material removal is 21,000 cubic yards.

Amount of expenditure during the fiscal year 1906-7 is \$4,000.

SESSIONAL PAPER No. 19

DREDGING AT L'ASSOMPTION.

Between August 27 and November 13, 1906, the close of navigation, the dredge *Premier* worked at this place. The work done consisted in dredging through a shoal opposite the Log river, to straighten the channel. The width made was 400 feet and the depth 10 feet at low water. 37,950 cubic yards of clay were removed.

DREDGING AT LOUISEVILLE.

From August 1 to 29, 1906, the dredge *Prince Louis* worked at this place. Work was started one and a half miles above entrance of Lake St. Peter. A cut was made 2,500 feet long, 30 feet wide and $6\frac{1}{2}$ feet below zero. This work was done in the channel to give better accommodation to barges going to this place. 47,505 cubic yards of clay, sand and boulders were removed.

DREDGING AT MASKINONGE.

Between September 3 and October 13, 1906, the dredge *Prince Louis* worked at this place. The nature of the work performed was the deepening of the channel $2\frac{1}{2}$ miles from entrance of Grand Nord channel. The channel was deepened to $6\frac{1}{2}$ feet below zero at different places in a distance of two miles. The width made was 35 feet. All this work was cast over. 85,530 cubic yards of clay and sand were removed.

DREDGING AT NOTRE DAME DE PIERREVILLE.

Dredge *St. Louis* worked at this place from July 16 to August 25, 1906. Two cuts were made to deepen the channel, 1,563 and 1,017 feet long, 25 feet wide and 8 feet deep at low water. The material removed consisted of 7,133 cubic yards of sand.

DREDGING AT NICOLET.

From July 21 to September 5, 1906, the dredge *St. Pierre* worked at this place. Deepening the channel above the wharf to accommodate the ferry boat as well as the lumber barges. The depth made was 10 feet at low water. 29,755 cubic yards of clay and sand were removed.

DREDGING AT OKA.

Dredge *Little Giant* worked at this place from July 1 to August 11, 1906. The work done consisted of dredging at the upper and lower part of the wharf to allow the market and other boats free access. The depth of water made was 10 feet at low water. The material removed was 25,410 cubic yards of clay and gravel.

DREDGING AT PAPINEAUVILLE.

The dredge *Challenge* worked at this place between August 18 and 25, 1906. The work consisted of making three cuts in front and alongside of the wharf 145, 124 and 75 feet long, 25 feet wide and 10 feet deep at low water. The quantity of material removed was 2,850 cubic yards of clay and boulders.

DREDGING AT QUEBEC.

From July 2 to November 21, 1906, the close of navigation, the dredge *International* worked at this place. The nature of the work done consisted of the levelling

7-8 EDWARD VII., A. 1908

of the bottom for the deep water cribs for the extension of the new wharfs at the breakwater. The average depth made was 55 feet at low water. The material removed consisted of 55,250 cubic yards of sand and boulders.

DREDGING AT RIGAUD.

Dredge *Chateauguay* worked at this place from July 1 to October 27, 1906. Dredging was performed between Jones and Hay island, deepening the channel to ten feet at low water, a width of thirty-five feet and a length of one and a quarter miles. This channel is to allow passenger and other vessels a freer passage. 85,470 cubic yards of clay, sand, and quicksand were removed.

Dredging was also done by the dredge *Canada*, from October 8 to 27, 1906. The work performed consisted in making a cut 40 feet wide and 10 feet deep below zero, to allow barges to approach.

DREDGING AT RIMOUSKI.

Dredging was done at this place by the dredge *Progress* between August 27 and October 6, 1906. The nature of the work was the dredging of a channel from the wharf to deep water. The depth made was 15 feet at low water. 18,300 cubic yards of sand, clay and boulders were removed.

Dredge *Nithsdale* also worked at this place from July 30 to November 3, 1906, the close of navigation. The work done consisted of deepening the eastern side of the wharf as well as dredging in the basin. The material removed consisted of 10,700 cubic yards of clay, sand and gravel.

DREDGING AT RIVIÈRE DU LOUP.

Work was done at this place by the dredge *Pontiac* from July 1 to August 14, 1906. The nature of the work was the dredging of a channel one mile above the entrance from Lake St. Peter and also one and one-half miles below Tourville saw-mill. The depth made was 6½ feet below low water. This work was done to allow barges a larger channel to load lumber. 45,035 cubic yards of clay and sand were removed.

The dredge *Prince Louis* also worked at this place between July 26 and 31, 1906. The work done was dredging in the channel one and one-half miles above entrance from Lake St. Peter and two miles below Tourville saw-mill. The width made was 30 feet and 6½ feet at low water. All this work was cast over on account of not having enough water to use scows. The quantity of material removed was 9,520 cubic yards of clay and sand.

DREDGING RIVIÈRE JÉSUS.

Dredge *Otto* worked at this place from July 1 to November 24, 1906, the close of navigation. The work was started at McDonald's wharf and continued towards Mascouche river; also at the entrance of Rivière Jésus. This work was done to give a deeper channel, to allow barges coming in to load hay, grain and stone. The depth made varied from 6½ to 10 feet at low water. 24,105 cubic yards of clay, gravel and boulders were removed.

DREDGING IN THE LIÈVRE RIVER.

Dredge *No. 2* worked at this place from September 3 to November 7, 1906, the close of navigation. Five cuts were made, 174, 810, 1,410, 130 and 526 feet long, 25 feet wide and 10 feet deep at low water. This work consisted in deepening the old channel near the locks, which had filled in through the land slide of the fall of 1902. The material cast over was 14,825 cubic yards of clay, gravel and boulders.

SESSIONAL PAPER No. 13

DREDGING IN RIVER LA GRAISSE.

Between July 12 and August 21, 1906, the dredge *Canada* worked at this place, one and one-half miles from the Ottawa river, making a channel 40 feet wide and a depth of 10 feet at low water, to allow barges loading freight. 12,600 cubic yards of rock, sand and clay were removed.

DREDGING AT RIVER OUELLE.

The dredge *Progress* worked at this place from July 2 to 7, 1906, dredging a foundation for the new protection pier. The depth made was 15 feet at low water. 200 yards of sand and clay were removed.

DREDGING IN THE RIVER ST. FRANCIS.

From August 17 to September 8, 1906, the dredge *Little Giant* worked at this place. The work done consisted in deepening one-half mile from mouth of the river, making a channel to accommodate passenger boats. The depth made was 10 feet at low water. 14,430 cubic yards of clay were removed.

The dredge *Duke of York* worked at this place from August 29 to November 22, 1906, the close of navigation: Dredging was performed in different places in a distance of three miles and also at the entrance of this river. The channel was deepened to 10 feet at low water to accommodate passenger boats. Ninety-one thousand feet at low water. 14,430 cubic yards of clay were removed.

Between August 16 and 27, 1906, dredge *Pontiac* worked at this place, dredging at entrance and one-half mile below the river. The work was done for the same purpose of accommodating passenger boats. The material removed was 14,590 cubic yards of sand and quicksand.

DREDGING AT ST. ANDREWS.

Dredging was done at this place by the dredge No. 4, General Construction Company, from July 1 to November 24, 1906, the close of navigation. The dredging done consisted in making a channel 32 feet wide and 10 feet deep at low water to allow boats an approach to the proposed wharf. Thirty thousand three hundred and ninety-three cubic yards of hard-pan, sand, boulders, clay and rock were removed.

DREDGING AT ST. DENIS.

Work was performed at this place by the dredge *Richelieu*, from October 17 to November 19, 1906, the close of navigation. The work consisted of dredging through a shoal from the wharf out to the channel. Four cuts were made, 256, 281, 431 and 456 feet long, 15 feet wide and 8 feet deep at low water. The quantity of material removed was 2,350 cubic yards of clay.

DREDGING AT ST. HILAIRE.

Dredging was done at this place by the dredge *Richelieu*, from September 6 to October 6, 1906. The work done consisted of dredging in front of the town wharf, Prefontaine's wharf, and in the channel and removing a shoal below Grand Trunk Railway bridge. Five cuts were made, 90, 82, 145, 135 and 125 feet long, 15 feet wide and 8 feet deep at low water. The quantity of material removed consisted of 5,700 cubic yards of clay, boulders and hard-pan.

7-8 EDWARD VII., A. 1908

DREDGING AT ST. MAURICE RIVER.

Between July 1 and August 28, 1906, the dredge *Duke of York* worked at this place, continuing the dredging one mile from main channel at Dansereau's mill and also at Union Bag Co.'s wharf. This work consisted in cleaning up the old channel. The depth made was 14 feet at low water. The quantity of material removed was 79,262 cubic yards sand and clay.

DREDGING AT ST. PLACIDE.

The dredge *Central City* worked at this place from July 1 to September 1, 1906. The work performed consisted in dredging from the main channel to the wharf and also alongside the wharf, for a distance of 150 feet, 150 feet wide and 10 feet deep at low water. 39,200 cubic yards of clay and boulders were removed.

DREDGING AT ST. OURS.

Between August 27 and September 1, 1906, the dredge *St. Louis* worked at this place. One cut was made in the channel 291 feet long, 25 feet wide and 8 feet deep at low water. The material removed consisted of 960 cubic yards of sand.

DREDGING AT SOREL.

Work was performed at this place by the dredge *Nithsdale* between November 5 and 14, 1906, the close of navigation. The nature of the work performed consisted of dredging at the Richelieu Landing wharf where the channel was deepened to 16 feet at low water. 1,890 cubic yards of sand were removed.

DREDGING AT THURSO.

Work was performed at this place by the dredge *Challenge* between August 25 and 30, 1906. One cut was made in front of the wharf 115 feet long, 25 feet wide and 10 feet deep at low water. The material removed consisted of 750 cubic yards of clay and boulders.

DREDGING AT VILLE MARIE.

From July 1 to September 8, 1906, the dredge *Queen* was working at this place. The work performed consisted of making five cuts in front and alongside the wharf. One other cut was made in the main channel 2,200 feet long. All these cuts were made to a depth of 9 feet at low water. The material removed was 26,640 cubic yards of clay.

DREDGING AT YAMASKA.

Dredging was done at this place by the dredge *St. Louis* between July 5 and 14, and from September 4 to November 8, 1906, the close of navigation. Two cuts were made, one 963 feet long, near Ile aux Erables, and one 1,612 feet long, near Ile St. Jean. Both these cuts were made in the channel, to a width of 25 feet and a depth of 9 feet at low water. 12,154 cubic yards of sand were removed.

Dredge *Prince Louis* also worked at this place, between October 16 and November 16, 1906, the close of navigation. Dredging was performed in different places, wherever casting over was necessary. Work was started at the entrance of the river and continued for a distance of four miles. The depth made was 6½ feet deep at low water. The quantity of material removed was 32,824 cubic yards of clay and sand.

SESSIONAL PAPER No. 19

PROVINCE OF ONTARIO.

DREDGING AT BEAVERTON.

Dredge *Simcoe* worked at this place from July 1 to November 20, 1906, the close of navigation, deepening the turning and channel thereto. The depth made was 17 feet at low water. 13,600 cubic yards of clay, sand, gravel and hard-pan were removed.

DREDGING AT BELLE RIVER.

The dredge *King Edward* worked at this place from September 26 to November 20, 1906, the close of navigation. The dredging consisted in deepening the channel at entrance to harbour to 9 feet at low water. Owing to the exposed position of this work, considerable filling in occurred, and the entire channel required has not yet been completed. 9,480 cubic yards of clay were removed.

DREDGING AT BELLEVILLE.

From July 1 to November 17, 1906, the close of navigation, the dredge *Sir Richard* worked at this place. Four cuts were made, 1,600 feet long, and six cuts, 250 feet long, 25 feet wide and 14 feet deep at low water. The work consisted in deepening the channel along the south wall near the Bay bridge. 71,800 cubic yards of boulders and gravel were removed.

DREDGING AT COLLINGWOOD.

From July 1 to August 25, 1906, the dredge *No. 1 Boone* worked at this place. The work done consisted in widening the turning basin in inner harbour, and also dredging along the face of the new concrete wharf. A depth of 17 feet at low water was made. The quantity of material removed was 26,018 cubic yards of clay, sand and gravel.

The dredge *Kingsford* also worked at this place, from July 1 to November 3, 1906, the close of navigation. This dredge was engaged at the same work as the above dredge, *No. 1 Boone*. The depth made was 22 feet at low water. The quantity of material removed was 17,715 cubic yards of clay, rock, boulders and hardpan.

DREDGING AT FASSET.

From August 30 and September 8 and between September 28 and October 27, 1906, the dredge *Challenge* worked at this place. The work done consisted of seven cuts in front of the wharf, 184, 218, 269, 301, 334, 120 and 114 feet long, 25 feet wide and 10 feet deep at low water. 12,750 cubic yards of clay were removed.

DREDGING AT GODERICH.

From July 25 to November 15, 1906, the close of navigation, the dredge *Arnoldi* worked at this place. The work consisted in cleaning and enlarging a basin in inner harbour to a depth of 19 feet at low water. Also dredging in channel between piers at outer entrance to same. The improvements to basin in inner harbour have already proved a great service to the large grain boats unloading in this harbour. 36,162 cubic yards of clay, sand, mud, rock and gravel were removed.

7-8 EDWARD VII., A. 1908

DREDGING AT HAMILTON.

Dredging was done at this place by the dredge *Nipissing*, from July 1 to August 21, 1906. Seven cuts were made, 500, 275, 250, 225 and three 300 feet long, 30 feet wide and 18 feet deep at low water. This work was done in front of the International Harvester Company's wharf, widening the channel and making a turning basin. The material removed was 27,600 cubic yards of quicksand. Owing to the sinking of this dredge at this place during a storm on August 22, it was found impossible to continue operations. Dredge was raised and towed to Ottawa to be repaired.

DREDGING AT KINGSVILLE.

Between November 1 and 24, 1906, the close of navigation, the dredge *Ontario* worked at this place. Two cuts were made inside the harbour, 250 feet long each, 25 feet wide and 14 feet deep at low water. These cuts were made along the west side of east pier to increase the length of dock. The amount of material removed was 9,465 cubic yards of sand and boulders.

DREDGING IN THE KAMINISTIGUIA RIVER.

The work done at this place consisted in the dredging of a channel, 4,400 feet long and 140 feet wide, from the Imperial Company's wharfs up the river, removing a shoal from Elevator E to 500 feet west of the McKellar wharf, with an average width of 200 feet, dredging in the centre of river from Ogilvie's elevator to turning basin into Mission, 2,400 feet long by an average width of 120 feet; removing shoal spots and dredging in Kaministiquia river in front of wharfs, from centre of old pile wharf, east of Consolidated elevator, to west end of Grand Trunk Pacific Railway's wharf, 3,600 feet in length by an average width of 90 feet. The depth made at these places was 22 feet at low water. The different dredges employed were:—

No. 6 Great Lakes Dredging Company, from July 1 to November 5, 1906, removed 362,979 cubic yards of clay and sand.

No. 5 Great Lakes Dredging Company, from July 1 to December 7, 1906, removed 391,653 cubic yards clay, gravel and boulders.

Dominion, from July 1 to December 8, 1906, removed 598,762 cubic yards clay, gravel and boulders.

No. 8 Great Lakes Dredging Company, from July 16 to December 5, 1906, removed 125,265 cubic yards of clay, gravel and boulders.

DREDGING AT LITTLE CURRENT.

Work was started at this place by the dredge *No. 14 Boone* on July 1, and continued there up to November 17, 1906, the close of navigation. The work consisted in blasting and dredging the main steamer channel to a depth of 22 feet at low water. 71,180 cubic yards of rock were removed.

DREDGING AT MATCHEDASH BAY.

From July 1 to November 17, 1906, the dredge *No. 4 Owen Sound Dredge and Construction Co.*, worked at this place. The work consisted in making a channel 100 feet wide and 14 feet deep at low water, between Waubaushene and Fesserton. 88,290 cubic yards of clay were removed.

SESSIONAL PAPER No. 19

DREDGING AT MEAFORD.

Dredge *Togo* worked at this place between August 23 and November 24, 1906, the close of navigation. Work consisted in dredging in the harbour and along the face of west wharf. The depth made was 20 feet at low water. 38,078 cubic yards of mud, clay and gravel were removed.

DREDGING AT MIDLAND.

The work done at this place consisted in the enlarging of the channel, leading to the Grand Trunk elevator and coal dock, also making a channel along face of Elevator wharf. The depth made was 26 feet at low water. Three dredges worked at this place, viz.:—No. 9, Owen Sound Dredge and Construction Co., from July 1 to November 30, 1906, removing 59,540 cubic yards of clay, sand, rock and boulders.

The *Excelsior* between November 15 and December 1, 1906, removing 19,000 cubic yards of clay and sand.

The *Monarch* from August 10 to December 1, 1906, removing 71,285 cubic yards of clay, sand, gravel and rocks.

DREDGING AT MITCHELLS BAY.

The dredge *Ontario* worked at this place between July 1 and 13, 1906. Work consisted in the dredging of a channel about 1,400 feet long leading to the wharf with an average width of 40 feet and a depth of 6 feet at low water. The quantity of material removed consisted of 7,036 cubic yards of clay and sand.

DREDGING AT NEW LISKEARD.

Dredge *Queen* worked at this place from September 10 to November 3, 1906, the close of navigation. Three cuts were made 200 feet long each, in the turning basin, which had filled up. Water being so low, one cut had to be made 450 feet long next to the wharf so as to allow boats to turn. Two cuts 500 feet long each were also made in the main channel at the bend, as it had filled up with refuse coming down the Wabigoon river. 13,716 cubic yards of clay were removed.

DREDGING AT NORTHPORT.

Dredging was done at this place by the dredge *Trenton*, from July 1 to August 21, 1906. The work performed consisted in deepening the approaches to and around wharf to enable vessels to land with more freedom. 23,120 cubic yards of gravel, clay and boulders were removed.

DREDGING AT OTTAWA.

The dredge *Nipissing* started work at this place on October 22, and continued there up to November 24, 1906, the close of navigation. The work consisted in making two cuts 125 feet long and one 50 feet long, 30 feet wide and 18 feet deep at low water. This work was done in front of the government property at the foot of Mill island. 2,800 cubic yards of slabs and sawdust were removed.

DREDGING AT OWEN SOUND.

From July 1 to August 4, and between October 19 and November 24, 1906, the close of navigation, the dredge *Frank* worked at this place deepening to 23 feet at low water. 71,820 cubic yards of clay and sand were removed.

7-8 EDWARD VII., A. 1908

DREDGING AT PENETANGUISHENE.

Between August 7 and September 29, 1906, the dredge *Frank* worked at this place. The work consisted of enlarging the channel to the town wharfs and making a depth of 20 feet at low water. 94,500 cubic yards of clay and sand were removed.

DREDGING AT POINT EDWARD.

The dredge No. 3 Dominion Dredging Company worked at this place from July 1 to October 6, 1906. Work performed consisted in the completing of a dredged channel 250 feet wide along water front of dock to a depth of 22 feet at low water. 54,150 cubic yards of gravel were removed.

DREDGING AT PORT ARTHUR.

The dredge *I.X.L.* worked at this place from July 1 to November 24, 1906, the close of navigation. The work consisted in deepening the channel at the entrance to the harbour, continuing the channel to King's elevator, inside of breakwater, and in places in front of King's wharf, and also in continuing the channel to Canadian Northern coal and iron dock. The depth made was 22 feet at low water. The quantity of material removed was 270,147 cubic yards of clay and sand.

DREDGING AT PORT BRUCE.

The dredge *Ottawa* worked at this place from July 28 to August 9, 1906. The work performed consisted in removing a bar which had formed across entrance to piers, and thereby completely blocking ingress or egress. Eighteen thousand four hundred and eighty-four cubic yards of sand and gravel were removed.

DREDGING AT PORT BURWELL.

Dredge *Ontario* worked at this place from July 1 to September 29, 1906. Five cuts were made 850 feet long each, 25 feet wide and 17 feet deep at low water, through the bar outside of piers. The material removed was 19,325 cubic yards of sand.

Dredge No. 2 Dominion Dredging and Construction also worked at this place from July 1 to September 14, 1906. A stone was taken out which had been washed off the end of the pier. A small shoal was removed from the upper end of the harbour and a large area was dredged to form a turning basin as well as the main entrance channel. A depth of 23 feet at low water was made. 20,267 cubic yards of clay and sand were removed.

Dredge *St. Lawrence* also worked at this place from July 1 to November 12, 1906, the close of navigation, being engaged on same work as above dredge No. 2. The quantity of material taken out was 72,151 cubic yards of clay, sand and gravel.

DREDGING AT PORT ELGIN.

Between July 1 and 16, 1906, the dredge *Arnoldi* worked at this place dredging to afford safe entrance at Commercial dock. A depth of 20 feet at low water was made. The quantity of material removed was 10,540 cubic yards of clay, sand and mud.

DREDGING AT PORT STANLEY.

Dredging was done at this place between July 1 and 25, and from August 11 to October 20, 1906. The work done consisted in excavating a channel 950 feet long and

SESSIONAL PAPER No. 19

100 feet wide at outer entrance to piers to a depth of 20 feet at low water; dredging in inner harbour to a depth of 18 feet below low water. Also a few days' dredging in the Lake Erie Coal Company's slip and at outer entrance to same to provide sufficient water for the safe entrance for the coal boat plying in and out of this slip. 35,086 cubic yards of clay and sand were removed.

DREDGING AT ROCKLAND.

Between September 10 and 27, 1906, the dredge *Challenge* worked at this place. Three cuts were made in front of Edward's log slide, 225, 227 and 226 feet long, 25 feet wide and 10 feet deep at low water. One other cut was also made in front of the coal dock, 75 feet long, 25 feet wide and 10 feet deep at low water. The quantity of material removed at this place was 9,700 yards of clay.

DREDGING AT RONDEAU.

From July 1 to September 4, 1906, the dredge *Meade* worked at this place dredging in inner harbour and at westerly side along coal dock. Also the opening up of a channel at entrance to harbour to a depth of 20 feet at low water. Dredging between piers to 18 feet and also removing some obstructions in the Lake Erie Company's coal slip. 40,393 cubic yards of clay and sand were removed.

DREDGING AT SARNIA.

From July 1 to August 11, 1906, the dredge *E. Hall, No. 1* worked at this place. Dredging was done opposite the Imperial Oil Company's dock and also in front and between the Sarnia Bay Lumber Company, and the Cleveland Sarnia Saw Mill Company's docks to a depth of 15 feet at low water in order to permit the entrance of the large rafts from the river. 16,900 cubic yards of clay and sand were removed.

DREDGING IN THE SOUTH NATION RIVER.

The dredge *Challenge* worked at this place from July 1 to August 18, 1906. Two cuts were made at the entrance 710 and 976 feet long. One other cut was made through a shoal, near the ferry, 130 feet long. All these cuts were made to a width of 25 feet and a depth of 10 feet at low water. An old pier was also removed from the channel 26 feet long by 26 feet wide and 10 feet deep. Some work was also done in front of Anderson's mill which consisted of scraping the material which had fallen on the rock for a distance of 190 feet, making a depth of 8 feet at low water. The material removed at this place was 15,150 cubic yards of clay.

DREDGING AT STURGEON FALLS.

Between July 1 and November 12, 1906, the close of navigation the dredge *Mat-tawa* worked at this place. Two cuts were made 1,500 and 800 feet long, 25 feet wide and 12 feet deep at low water. These cuts were made through a sand shoal to straighten and shorten the old channel. 53,600 cubic yards of clay and sand were removed.

DREDGING IN THE THAMES RIVER.

Dredge *Meade* worked at this place from September 10 to October 22, 1906. Dredging was done in front of the dock to a depth of 13 feet at low water. 59,015 cubic yards of clay and sand were removed.

7-8 EDWARD VII., A. 1908

DREDGING AT TORONTO.

Work was performed at this place by the dredge *Haney* between July 1 and December 3, 1906, the close of navigation. The work consisted in deepening the eastern channel and the approaches thereto to a depth of 19 feet at low water. 31,794 cubic yards of sand were removed.

DREDGING AT TRENTON.

Dredge *Trenton* worked at this place between August 27 and October 27, 1906, deepening the approaches to the wharf to a depth of 14 feet at low water. 66,060 cubic yards of gravel, clay and boulders were removed.

DREDGING AT WAUPOOS.

Dredge *Trenton* worked at this place between August 22 and 25, 1906, deepening the channel leading to the wharfs. The depth of water made was 12 feet at low water. 3,510 cubic yards of gravel, clay and boulders were removed.

LIST OF DREDGES EMPLOYED DURING 1906-7.

Departmental Dredges:—

Challenge.
Ontario.
Nipissing.
Sir Richard.
Richelieu.
Queen.

International.
Progress.
Mattawa.
St. Louis.
No. 2.

Dredges Rented:—

Nithsdale.
No. 5, McDonald.
No. 6, Prendergast.
Little Giant.
Duke of York.
Pontiac.
Quebec.
No. 1, Moore.
No. 2, Moore.
No. 4, General Construction Co.
Chateauguay.
Canada.
Duke of York (Poupore).
Central City.
Pontiac.
Prince Louis.
Otto.
Premier.
Arnoldi.
No. 1, Boone.
Kingsford.
No. 14, Boone.
Frank.
No. 6, Great Lakes Dredging Co.

No. 2, Dominion Dredging and Construction Co.
St. Lawrence.
Owen Sound Dredge Construction Co.
Ottawa.
Meade.
Trenton.
No. 5, Great Lakes Dredging Co.
Dominion.
No. 8, Great Lakes Dredging Co.
No. 9, Owen Sound Dredge and Construction Co.
Excelsior.
Monarch.
King Edward.
No. 3, Dominion Dredging Co.
Simcoe.
I. X. L.
Haney.
Togo.
E. Hall, No. 1.
Ontario.
St. Pierre.

SESSIONAL PAPER No. 19

STATEMENT of Expenditure and quantities of material removed by the different Departmental Dredges at various localities in Ontario and Quebec, during the fiscal year ending March 31, 1907.

Dredge.	Location.	Yards removed.	Character of soil.	Expenditure.	Cost per yard.
				\$ cts.	\$ cts.
Challenge.....	South Nation.....	15,150	Sand and clay.....	3,933 92	0 00 $\frac{3}{5}$
	Papineauville.....	2,850	Clay and boulders.....		
	Thurso.....	750	" ".....		
	Fassett.....	12,750	Clay.....		
	Rockland.....	9,700	" ".....		
Ontario.....	Port Burwell.....	19,325	Sand.....	6,289 74	0 21 $\frac{1}{2}$
	Kingsville.....	9,465	Sand, clay and boulders.....		
Nipissing.....	Hamilton.....	27,600	Quicksand.....	3,785 53	0 12 $\frac{9}{10}$
	Ottawa River.....	2,800	Slabs and sawdust.....		
Sir Richard.....	Belleville.....	71,800	Boulders and gravel.....	5,294 75	0 07 $\frac{9}{10}$
Richelieu.....	Chambly Basin.....	16,650	Clay, sand and boulders.....	3,612 91	0 13 $\frac{4}{5}$
	Beloeil.....	2,975	Clay, sand, hardpan and gravel.....		
	St. Hilaire.....	5,700	Clay, sand, hardpan.....		
	St. Denis.....	2,350	Clay.....		
Queen.....	Ville Marie.....	26,640	Clay.....	5,701 80	0 14 $\frac{3}{5}$
	New Liskeard.....	13,716	" ".....		
International...	Quebec.....	55,250	Sand and boulders.....	12,046 67	0 21 $\frac{1}{2}$
Progress.....	River Ouelle.....	200	Sand and clay.....	14,321 15	0 25 $\frac{1}{2}$
	Chicoutimi.....	37,800	Clay, sand and boulders.....		
	Rimouski.....	18,300	" " ".....		
Mattawa...	Sturgeon Falls.....	53,600	Clay and sand.....	8,128 04	0 15 $\frac{3}{5}$
Nithsdale.....	Rimouski.....	10,700	Clay, sand and gravel.....	9,968 16	0 79 $\frac{4}{5}$
	Sorel.....	1,890	Sand.....		
St. Louis.....	Yamaska.....	12,154	Sand.....	3,196 57	0 15 $\frac{3}{5}$
	Notre Dame de Pierre-ville.....	7,133	" ".....		
	St. Ours.....	960	" ".....		
No. 2.....	Lièvre River.....	14,825	Clay, gravel and boulders.....	3,029 56	0 20 $\frac{1}{2}$

7-8 EDWARD VII., A. 1908

STATEMENT of Expenditure and quantities of material removed by the different Contractors' Dredges at various localities in Ontario and Quebec.—*Continued.*

Dredge.	Location.	Yards removed.	Character of soil.	Expenditure.	Cost per yard.
No. 5..... R. McDonald.	Doucet's Landing.....	20,584	Clay and sand..	\$ cts. 5,647 68	\$ cts. 0 27 $\frac{1}{2}$
No. 6. Prendergast.	River Batiscan.....	56,200	Clay and sand	7,160 97	0 12 $\frac{3}{4}$
No. 6..... McDonald.	Doucet's Landing.....	85,660	Clay and sand	23,367 42	0 27 $\frac{7}{8}$
Little Giant Cohen & Son.	Oka..... St. Francis River..... Berthierville	25,410 14,430 47,440	Clay and gravel. Clay Clay and sand	8,493 30 1,869 83 10,534 46	0 33 $\frac{2}{3}$ 0 12 $\frac{4}{5}$ 0 22 $\frac{1}{4}$
Duke of York... Can. Improv. Co.	River St. Francis.....	91,425	Clay and sand....	10,988 10	0 12
Pontiac..... Can. Improv. Co.	River St. Francis.... .	14,590	Sand and quicksand.....	2,416 60	0 16 $\frac{2}{3}$
Quebec Genl. Const. Co.	Beauharnois....	72,640	Clay and rock	22,695 95	0 31 $\frac{2}{3}$
No. 1..... T. F. Moore Co.	Blanche Shoals	55,100	Clay and sand	11,994 00	0 21 $\frac{1}{2}$
No. 2..... T. F. Moore Co	Blanche Shoals	52,726	Clay and sand	11,418 71	0 21 $\frac{1}{2}$
No. 4..... Genl. Const. Co.	North River, St. Andrews	30,393	Hardpan, sand, boulders, clay and rock	18,291 05	0 60 $\frac{1}{2}$
Chateauguay ... L. Cohen & Son.	Rigaud, Ile au Foin.....	85,470	Clay, sand and quicksand.	23,756 75	0 27 $\frac{1}{2}$
Canada Cohen & Son.	Rigaud River LaGraisie Como.....	12,590 12,600 14,090	Clay Rock, clay and stone..... Clay	4,226 70 4,284 00 8,139 30	0 33 $\frac{1}{2}$ 0 34 0 57 $\frac{1}{2}$
Duke of York. . W. J. Poupore Co	River St. Maurice.... .	79,262	Sand and clay	9,442 32	0 11 $\frac{2}{3}$

SESSIONAL PAPER No. 19

STATEMENT of Expenditure and quantities of material removed by the different Contractors' Dredges at various localities in Ontario and Quebec—*Continued.*

Dredge.	Location.	Yards removed.	Character of soil.	Expenditure.	Cost per yard.
Central City....	St. Placide	39,200	Clay, boulders and stone.....	8 cts.	8 cts.
Cohen & Son.	Chateauguay.....	21,510	Sand, clay, boulders and hard pan	13,072 90	0 33 $\frac{7}{8}$
				6,084 45	0 27 $\frac{7}{8}$
Pontiac.	River du Loup en haut..	45,035	Clay and sand.....	5,085 45	0 11 $\frac{2}{5}$
W.J. Poupore Co					
Prince Louis....	River du Loup en haut..	9,520	Clay and sand	761 60	0 08
W.J. Poupore Co	Maskinonge	85,530	" "	7,461 66	0 08 $\frac{1}{2}$
	Yamaska	32,824	" "	3,695 89	0 11 $\frac{1}{4}$
	Louiseville.. ..	47,505	" "	3,878 87	0 08 $\frac{3}{8}$
St. Pierre	Nicolet	29,755	Clay and sand	3,960 15	0 13 $\frac{2}{5}$
A. St. Pierre.	Godfroye	38,770	Clay, sand and boulders.....	3,990 50	0 10 $\frac{3}{5}$
Otto.....	River Jesus	24,105	Clay, gravel and boulders.	8,030 75	0 33 $\frac{3}{5}$
Genl. Const. Co.					
Premier	L'Assomption	37,950	Clay	6,670 50	0 27 $\frac{3}{8}$
Genl. Const. Co.					

7-8 EDWARD VII., A. 1908

STATEMENT of Expenditure and quantities of material removed by the different Contractors' Dredges at various localities in Ontario during the fiscal year ending March 31, 1907.

Dredge.	Location.	Yards removed.	Character of Soil.	Expenditure.	Cost per yard.
				8 cts.	8 cts.
Arnoldi	Goderich.....	36,162	Sand, mud, rock and gravel....	13,276 20	0 36 $\frac{7}{10}$
Marlton Dg. Co.	Port Elgin.....	10,540	Clay and sand	3,199 50	0 30 $\frac{1}{10}$
No. 1.....	Collingwood	26,018	Clay, sand and gravel.....	9,008 12	0 34 $\frac{1}{2}$
C. S. Boone.					
Kingsford ...	Collingwood	26,018	Clay, rock, bldrs. and hardpan..	40,955 11	2 31 $\frac{9}{10}$
Gt. Lakes Dg. Co.					
No. 14	Little Current	71,180	All rock... ..	121,378 38	1 70 $\frac{1}{2}$
C. S. Boone.					
Frank	Owen Sound	71,820	Clay and sand	8,469 59	0 11 $\frac{9}{10}$
A. F. Bowman..	Penetanguishene.....	94,500	"	11,563 55	0 12 $\frac{1}{10}$
No. 6	Kaministiquia & Mission Rivers.....	362,979	Clay and sand	42,122 84	0 11 $\frac{3}{8}$
Gt. Lakes Dg. Co.					
No. 2	Port Burwell	20,267	Clay and sand	5,306 75	0 26 $\frac{9}{10}$
Dominion Dg. & Const. Co.					
St. Lawrence... Manley Co.	Port Burwell ...	72,151	Clay, sand and gravel and pulling out piles and crib work...	22,549 94	0 31 $\frac{1}{4}$
No. 4	Matchedash	88,290	Clay	10,737 32	0 12 $\frac{4}{15}$
Owen Sound Dg. & Const. Co.					
Ottawa	Port Stanley.....	35,086	Clay and sand	6,540 84	0 18 $\frac{2}{5}$
Manley Co.	Port Bruce	18,484	Sand and gravel.....	2,161 00	0 11 $\frac{1}{2}$
Meade	Rondeau.....	40,393	Clay and sand ...	5,523 81	0 13 $\frac{3}{10}$
C. S. Boone.	Thames River....	59,018	"	8,905 66	0 15 $\frac{1}{10}$
Trenton	North Port ..	23,120	Clay, gravel and bldrs.....	9,730 80	0 42 $\frac{1}{10}$
Weddell.	Waupoos.....	3,510	"	1,029 90	0 29 $\frac{1}{10}$
	Trenton ..	66,060	Clay, sand and gravel.	10,076 00	0 15 $\frac{1}{4}$
No. 5.....	Kaministiquia & Mission Rivers	391,653	Clay, gravel and boulders..	37,702 60	0 09 $\frac{9}{10}$
Gt. Lakes Dg. Co.					

SESSIONAL PAPER No. 19

STATEMENT of Expenditure and quantities of material removed by the different Contractors' Dredges at various localities in Ontario—*Continued.*

Dredge.	Location.	Yards removed.	Character of Soil.	Expenditure.	Cost per yard.
				\$ cts.	\$ cts.
Dominion..... Gt. Lakes Dg.Co	Kaministiquia & Mission Rivers.....	598,762	Clay, gravel and boulders . . .	56,991 19	0 09½
No. 8..... Gt. Lakes Dg.Co	Kaministiquia & Mission Rivers.....	125,265	Clay, gravel and boulders	13,324 79	0 10½
No. 9..... Owen Sound Dg. & Const. Co.	Midland.	59,540	Clay, sand, rock and boulders..	20,663 29	0 34½
Excelsior. Owen Sound Dg. & Const. Co.	Midland.....	19,000	Clay and sand	6,460 00	0 34
Monarch Owen Sound Dg. & Const. Co.	Midland.....	71,285	Clay, sand, gravel and rock....	38,612 50	0 54½
King Edward... Windsor Dg. Co.	Belle River.....	9,480	Clay.....	2,556 50	0 26¾
No. 3 Domn. Dg.Co.	Point Edward.....	54,150	Gravel.....	9,962 62	0 18½
Simcoe..... Brown & Alymer	Beaverton.....	13,066	Clay, sand, gravel and hardpan.	4,166 50	0 31½
I. X. L. R. Weddell.	Port Arthur.....	270,147	Clay and sand.....	26,187 98	0 09½
Haney..... Haney & Miller.	Toronto Harbour.....	31,794	Sand.....	5,466 25	0 17½
E. Hall No. 1... Sarnia Bay, Lum- ber, Timber & Salt Co.	Sarnia.....	16,900	Clay and sand	2,979 04	0 17½
Togo..... Weddell, Manley & Weddell.	Meaford.....	38,078	Mud, clay and gravel.....	13,617 87	0 35½
Ontario. Chatham Dg.Co.	Mitchells Bay	7,036	Clay and sand.....	1,100 40	0 15½

CLASSIFICATION OF DISBURSEMENTS of the Dredges during the Nine Months ended 31st March, 1907.
DREDGE 'CHALLENGE'.

Items.	July.		August.		September.		October.		November.		December.		January.		February.		March.		Grand Total.	
	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.
Wages.....	428	76	436	12	590	20	504	78	202	50							83	05	2,245	41
Coal.....			461	83	482	68													944	51
Provisions.....	134	14	139	82	1	50	157	89	30	80							19	94	484	09
Stores.....			4	80			1	18			7	00					16	50	29	78
Equipment.....			6	14															6	14
Repairs.....			1	60															280	44
Contingencies.....							3	55											3	55
Totals.....	562	90	1,050	31	1,074	38	667	70	233	30	7	00					398	33	3,993	92
Working expenses.....	562	90	1,048	71	1,074	38	667	70	233	30	7	00					119	49	3,713	48
Repairs.....			1	60													278	84	280	44
Totals.....	562	90	1,050	31	1,074	38	667	70	233	30	7	00					398	33	3,993	92

DREDGE 'ONTARIO.'

Wages.....	475	00	456	77	450	00	372	74	637	17	30	00	30	00	70	00	332	78	2,851	46
Coal.....	133	31	147	27	114	29	102	36	191	60							43	85	762	65
Provisions.....	135	00	125	71	123	00	132	10	20	18							84	00	619	99
Stores.....	2	21	53	92			13	89	8	15							105	75	183	92
Equipment.....	4	00			47	25													51	25
Repairs.....	28	20	105	65	8	38	40	29	45	86									1,323	32
Contingencies.....	23	00	40	14	20	55			49	10									70	73
Totals.....	800	75	929	46	793	47	661	32	952	06	30	00	30	00	132	25	1,960	43	6,289	74
Working expenses.....	772	55	823	81	785	09	621	03	906	20	30	00	30	00	132	25	637	11	4,738	04
Repairs, ordinary.....	28	20	105	65	8	38	40	29	45	86									1,551	70
" extraordinary.....																			1,323	32
Totals.....	800	75	929	46	793	47	661	32	952	06	30	00	30	00	132	25	1,960	43	6,289	74

7-8 EDWARD VII., A. 1908

SESSIONAL PAPER No. 19

DREDGE 'NIPISSING.'

Wages.....	430 00	429 33	336 16	440 31	459 00	.....	.....	.....	2,085 80
Coal.....	234 50	266 00	6 50	101 50	.....	.....	.....	.....	608 56
Provisions.....	127 30	120 08	48 90	141 29	87 40	.....	.....	.....	575 57
Stores.....	.....	5 00	9 12	1 83	.....	.....	.....	17 75	43 30
Equipment.....	19 00	.....	.....	.....	.....	.....	.....	.....	19 00
Repairs.....	7 10	.....	.....	.....	19 80	.....	.....	288 50	338 44
Flotage.....	.....	.....	60 00	.....	.....	.....	.....	.....	60 00
Contingencies.....	2 27	2 80	.....	1 20	31 00	.....	.....	.....	54 92
Totals.....	820 17	814 81	510 08	686 13	597 20	40 69	.....	396 25	3,785 53
Working expenses.....	813 07	814 81	510 08	686 13	577 40	17 65	.....	17 75	3,447 09
Repairs, ordinary.....	7 10	.....	.....	.....	19 80	23 04	.....	288 50	338 44
Totals.....	820 17	814 81	510 08	686 13	597 20	40 69	.....	306 25	3,785 53

DREDGE 'SIR RICHARD.'

Wages.....	550 00	425 00	425 00	425 00	337 32	135 00	173 00	.....	2,605 32
Coal.....	252 56	116 50	244 85	229 19	179 37	.....	.....	.....	1,022 47
Provisions.....	123 00	206 03	123 00	123 00	87 00	.....	.....	.....	662 93
Stores.....	7 55	18 05	62 33	13 83	7 96	.....	.....	75 50	195 22
Equipment.....	.....	.....	.....	.....	24 28	25 00	10 00	.....	40 28
Repairs.....	228 75	150 54	24 25	6 00	33 40	1 00	161 63	92 70	638 27
Contingencies.....	41	.....	.....	.....	46 93	11 10	2 82	.....	61 26
Totals.....	1,162 27	917 02	879 43	797 02	716 26	172 10	337 45	168 20	5,294 75
Working expenses.....	933 52	766 48	855 18	791 02	682 86	171 10	175 82	75 50	4,586 48
Repairs, ordinary.....	228 75	150 54	24 25	6 00	33 40	1 00	161 63	92 70	638 27
Totals.....	1,162 27	917 02	879 43	797 02	716 26	172 10	337 45	168 20	5,294 75

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF Disbursements of the Dredges during the Nine Months ended March 31, 1907—Continued.

DREDGE 'RICHELIEU,' D. P. W.

ITEMS.	July.		August.		September.		October.		November.		December.		January.		February.		March.		Grand Total.	
	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.	£	cts.
Wages.....	110	00	420	00	420	00	420	00	350	33	80	00	80	00	80	00	80	00	2,340	33
Coal.....			231	59	42	02	194	55	3	72									521	88
Provisions.....	123	00	123	00	423	00	127	75	113	70									610	45
Stores.....			17	10			7	81											100	41
Repairs.....			1	25	13	48	5	91	12	45					6	75			27	39
Contingencies.....																			12	45
Totals.....	533	00	792	94	648	50	756	02	480	20	80	00	80	00	86	75	155	50	3,612	91
Working expenses.....	533	00	791	69	635	02	750	14	480	20	80	00	80	00	80	00	155	50	3,585	52
Repairs, ordinary.....			1	25	13	48	5	91							6	75			27	39
Totals.....	533	00	792	94	648	50	756	02	480	20	80	00	80	00	86	75	155	50	3,612	91

DREDGE 'QUEEN,' D. P. W.

Wages.....	533	85	450	00	470	00	451	13	453	00	178	65	132	75	115	00	131	33	2,915	71
Coal.....	96	30			132	25			160	00	118	26	16	00	24	00	582	50	1,129	25
Provisions.....	493	24	438	48	135	00	133	45	148	96	25	16	12	00	12	00	17	03	845	32
Stores.....			28	05	1	75			42	29	27	81	13	70			80	35	193	95
Equipment.....			112	50					46	85									159	35
Repairs.....					18	00	80	55	96	16	62	54	43	90			31	36	332	51
Towage.....	84	00																	84	00
Contingencies.....	5	55							30	36	2	65					33	15	71	75
Totals.....	912	94	729	03	757	00	605	13	977	62	415	01	218	35	151	00	875	72	5,701	80
Working expenses.....	912	94	729	03	739	00	584	58	881	46	352	47	174	45			844	36	5,369	29
Repairs, ordinary.....					18	00	80	55	96	16	62	54	43	90			31	36	332	51
Totals.....	912	94	729	03	757	00	605	13	977	62	415	01	218	35	151	00	875	72	5,701	80

SESSIONAL PAPER No. 19

DREDGE 'INTERNATIONAL.'

Wages.....	616 61	587 90	592 00	590 00	554 17	365 33	.....	257 13	432 26	2,995 40
Coal.....	1,114 55	.....	186 80	184 00	172 00	97 87	.....	49 50	138 40	1,114 55
Provisions. . .	172 00	185 16	.....	49 88	.....	.....	.....	.....	.....	1,183 73
Stores . . . . .	.....	30 00	.....	.....	.....	.....	.....	.....	.....	79 88
Equipment.....	.....	32 61	.....	.....	.....	.....	.....	.....	.....	39 61
Repairs.	84 75	50 65	29 59	255 96	600 13	16 24	.....	52 00	322 43	1,419 75
Towage.....	.....	.....	44 00	.....	.....	.....	.....	.....	248 25	341 25
Contingencies. .	.....	.....	.....	.....	.....	.....	8 00	.....	3,866 50	3,874 50
Totals.....	1,987 91	886 32	852 39	1,079 84	1,386 30	479 44	8 00	358 63	5,007 84	12,046 67
Working expenses.....	1,903 16	835 67	822 80	823 88	726 17	463 20	8 00	358 63	4,085 41	10,626 92
Repairs, ordinary	84 75	50 65	29 59	255 96	600 13	16 24	.....	.....	322 43	1,419 75
Totals.....	1,987 91	886 32	852 39	1,079 84	1,386 30	479 74	8 00	358 63	5,007 84	12,046 67

DREDGE 'PROGRESS.'

Wages.	925 18	1,022 42	1,558 64	1,259 66	779 01	295 81	48 39	96 06	297 58	6,282 75
Coal.....	2,741 55	367 93	499 38	10 90	.....	.....	.....	.....	.....	3,618 76
Provisions	342 39	383 49	340 92	345 86	222 79	24 77	.....	22 50	103 00	1,785 72
Stores.....	4 33	.....	270 83	17 69	.....	.....	.....	.....	.....	292 85
Equipment.....	.....	11 00	66 45	.....	.....	.....	.....	.....	.....	77 45
Repairs.....	183 69	64 99	468 44	738 73	507 46	64 00	.....	.....	96 76	2,080 07
Towage.....	.....	.....	.....	14 40	30 00	.....	.....	17 00	16 00	80 00
Contingencies. . . . .	.....	.....	.....	.....	.....	.....	.....	.....	42 15	103 85
Totals.....	4,196 14	1,849 83	3,204 66	2,407 24	1,539 26	384 58	48 39	135 56	555 49	14,321 15
Working expenses.....	4,012 45	1,784 84	2,736 22	1,648 51	1,031 80	384 58	48 39	135 56	458 73	12,241 08
Repairs, ordinary.....	183 69	64 99	468 44	738 73	507 46	.....	.....	.....	96 76	2,080 07
Totals.....	4,196 14	1,849 83	3,204 66	2,407 24	1,539 26	384 58	48 39	135 56	555 49	14,321 15

SESSIONAL PAPER No. 19

DREDGE 'No. 2,' D. P. W.

Wages.....	152 30	297 73	253 74	210 00	174 00	75 00	277 32	1,440 09
Coal.....		413 62	24 00	194 50			523 12	1,185 24
Provisions.....	53 13		77 40	67 15	46 00		9 26	253 74
Stores.....							17 25	17 25
Repairs.....							24 09	31 24
Towage.....								102 00
Totals.....	206 23	741 35	355 14	471 65	322 00	82 15	851 04	3,029 56
Working expenses.....	206 23	741 35	355 14	471 65	322 00	75 00	826 45	2,998 32
Repairs, ordinary.....						7 15	24 09	31 24
Totals.....	206 23	741 35	355 14	471 65	22 00	82 15	851 04	3,029 56

DREDGE 'NITHSDALE,' D. P. W.

Wages.....	405 50	447 75	576 67	418 69	254 98			2,163 59
Coal.....	299 63		148 32					447 95
Provisions.....	138 10	128 91	144 80	123 49	74 80			610 10
Stores.....		149 65	21 12	30 70	2 82			194 29
Repairs.....	231 72	191 45	5 45	86 78				515 90
Towage.....				6 00				6 00
Contingencies.....	1,262 90	1,314 25	1,200 00	1,540 75	682 43			6,030 33
Totals.....	2,397 85	2,262 01	2,096 86	2,196 41	1,015 03			9,968 16
Working expenses.....	2,166 13	2,070 56	2,090 91	2,109 63	1,015 03			9,452 26
Repairs, ordinary.....	231 72	191 45	5 45	86 78				515 90
Totals.....	2,397 85	2,262 01	2,096 86	2,196 41	1,015 03			9,968 16

DREDGE No. 5, R. MACDONALD.

Wages.....		90 00						90 00
Contingencies.....		5,557 68						5,557 68
Totals.....		5,647 68						5,647 68
Working expenses.....		5,647 68						5,647 68
Totals.....		5,647 68						5,647 68

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF DISBURSEMENTS of the Dredges during the Nine Months ended 31st March, 1907—*Continued.*

DREDGE No. 6, PRENDERGAST.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	67 31	68 66								135 97
Contingencies.....	5,600 00	1,425 00								7,025 00
Totals.....	5,667 31	1,493 66								7,160 97
Working expenses.....	5,667 31	1,493 66								7,160 97
Totals.....	5,667 31	1,493 66								7,160 97

DREDGE No. 6, MACDONALD.

Wages.....			78 00	78 00	63 00					219 00
Stores.....				5 22						5 22
Contingencies.....			7,463 40	8,515 80	7,269 00					23,128 20
Totals.....			7,481 40	8,599 02	7,272 00					23,352 42
Working expenses.....			7,481 40	8,599 02	7,272 00					23,352 42
Totals.....			7,481 40	8,599 02	7,272 00					23,352 42

DREDGE 'LITTLE GIANT,' L. COHEN & SON.

Wages.....	78 00	30 00	34 00	81 00	84 25					307 25
Contingencies.....	6,213 90	3,341 85	2,458 96	4,867 25	3,798 38					20,590 34
Totals.....	6,291 90	3,371 85	2,492 96	4,948 25	3,792 63					20,897 59
Working expenses.....	6,291 90	3,371 85	2,492 96	4,948 25	3,792 63					20,897 59
Totals.....	6,291 90	3,371 85	2,492 92	4,948 25	3,792 63					20,897 59

SESSIONAL PAPER No. 19

DREDGE 'DUKE OF YORK,' CANADA IMPROVEMENT CO.

Wages.....	.....	62 50	67 50	79 25	.....	.....	209 25
Contingencies.....	.....	4,079 36	4,461 86	2,237 63	.....	.....	10,778 85
Totals.....	.....	4,141 86	4,529 36	2,316 88	.....	.....	10,988 10
Working expenses.....	.....	4,141 86	4,529 36	2,316 88	.....	.....	10,988 10
Totals.....	.....	4,141 86	4,529 36	2,316 88	.....	.....	10,988 10

DREDGE 'PONTIAC,' CANADA IMPROVEMENT CO.

Wages.....	.....	40 00	.....	.....	.....	.....	40 00
Contingencies.....	.....	2,376 60	.....	.....	.....	.....	2,376 60
Totals.....	.....	2,416 60	.....	.....	.....	.....	2,416 60
Working expenses.....	.....	2,416 60	.....	.....	.....	.....	2,416 60
Totals.....	.....	2,416 60	.....	.....	.....	.....	2,416 60

DREDGE 'QUEBEC,' GENERAL CONSTRUCTION CO.

Wages.....	.....	78 00	81 00	75 00	81 00	63 00	.....	378 00
Contingencies.....	.....	4,640 00	4,210 80	4,463 10	5,715 45	3,288 60	.....	22,317 95
Totals.....	.....	4,718 00	4,291 80	4,538 10	5,796 45	3,351 60	.....	22,695 95
Working expenses.....	.....	4,718 00	4,291 80	4,538 10	5,796 45	3,351 60	.....	22,695 95
Totals.....	.....	4,718 00	4,291 80	4,538 10	5,796 45	3,351 60	.....	22,695 95

DREDGE No. 1, T. F. M. CO.

Wages.....	.....	81 00	81 00	75 00	81 00	63 00	.....	381 00
Contingencies.....	.....	3,118 50	2,961 00	1,648 50	3,843 00	42 00	.....	11,613 00
Totals.....	.....	3,199 50	3,042 00	1,723 50	3,924 00	105 00	.....	11,994 00
Working expenses.....	.....	3,199 50	3,042 00	1,723 50	3,924 00	105 00	.....	11,994 00
Totals.....	.....	3,199 50	3,042 00	1,723 50	3,924 00	105 00	.....	11,994 00

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF DISBURSEMENTS OF the Dredges during the nine months ended March 31, 1907.

'No. 2' T. F. M. CO.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	73 75	73 50	68 50	73 50	58 00	.....	.....	.....	.....	347 25
Contingencies.....	3,112 20	2,304 33	1,406 37	2,512 91	1,735 65	.....	.....	.....	.....	11,071 46
Totals.....	3,185 95	2,377 83	1,474 87	2,586 41	1,793 65	.....	.....	.....	.....	11,418 71
Working expenses.	3,185 95	2,377 83	1,474 87	2,586 41	1,793 65	.....	.....	.....	.....	11,418 71
Totals.	3,185 95	2,377 83	1,474 87	2,586 41	1,793 65	.....	.....	.....	.....	11,418 71

DREDGE 'No. 4,' GENL. CONST. CO.

Wages.....	78 00	81 00	75 00	81 00	62 90	.....	.....	.....	.....	377 90
Contingencies.....	3,161 40	5,607 25	3,696 00	2,431 00	3,107 50	.....	.....	.....	.....	17,913 15
Totals.....	3,239 40	5,688 25	3,681 00	2,512 00	3,170 40	.....	.....	.....	.....	18,291 05
Working expenses.....	3,239 40	5,688 25	3,681 00	2,512 00	3,170 40	.....	.....	.....	.....	18,291 05
Totals.....	3,239 40	5,688 25	3,681 00	2,512 00	3,170 40	.....	.....	.....	.....	18,291 05

DREDGE 'CHATEAUGUAY' L. COHEN & SON.

Wages.....	65 00	67 50	62 50	57 50	.....	.....	.....	.....	.....	252 50
Contingencies.....	6,391 00	6,083 00	5,948 25	5,082 00	.....	.....	.....	.....	.....	23,594 25
Totals.....	6,456 00	6,150 50	6,010 75	5,139 50	.....	.....	.....	.....	.....	23,756 75
Working expenses.....	6,456 00	6,150 50	6,010 75	5,139 50	.....	.....	.....	.....	.....	23,756 75
Totals.....	6,456 00	6,150 50	6,010 75	5,139 50	.....	.....	.....	.....	.....	23,756 75

SESSIONAL PAPER No. 19

DREDGE 'No. 4, CANADA' L. COHEN & SON.

Wages	72 00	83 00	79 00	72 00	.....	.....	.....	306 00
Contingencies.....	2,372 70	4,202 10	5,614 50	4,154 70	.....	.....	.....	16,344 00
Totals	2,444 70	4,285 10	5,693 50	4,226 70	.....	.....	.....	16,650 00
Working expenses.....	2,444 70	4,285 10	5,693 50	4,226 70	.....	.....	.....	16,650 00
Totals	2,444 70	4,285 10	5,693 50	4,226 70	.....	.....	.....	16,650 00

19—iv—15

DREDGE 'DUKE OF YORK' W. J. POUPORE.

Wages	91 00	80 50	.....	.....	.....	.....	.....	171 50
Contingencies.....	5,097 51	4,173 31	.....	.....	.....	.....	.....	9,270 82
Totals	5,188 51	4,253 81	.....	.....	.....	.....	.....	9,442 32
Working expenses.....	5,188 51	4,253 81	.....	.....	.....	.....	.....	9,442 32
Totals	5,188 51	4,253 81	.....	.....	.....	.....	.....	9,442 32

DREDGE 'CENTRAL CITY' L. COHEN & SON.

Wages	65 00	62 50	42 00	81 00	46 20	.....	.....	296 70
Contingencies.....	7,927 70	5,017 70	2,425 50	2,620 75	869 00	.....	.....	18,860 65
Totals	7,992 70	5,080 20	2,467 50	2,701 75	915 20	.....	.....	19,157 35
Working expenses.....	7,992 70	5,080 20	2,467 50	2,701 75	915 20	.....	.....	19,157 35
Totals	7,992 70	5,080 20	2,467 50	2,701 75	915 20	.....	.....	19,157 35

DREDGE 'PONTIAC' W. J. POUPORE.

Wages	65 00	40 60	.....	.....	.....	.....	.....	105 60
Contingencies.....	4,154 15	825 70	.....	.....	.....	.....	.....	4,979 85
Totals	4,219 15	866 30	.....	.....	.....	.....	.....	5,085 45
Working expenses.....	4,219 15	866 30	.....	.....	.....	.....	.....	5,085 45
Totals	4,219 15	866 30	.....	.....	.....	.....	.....	5,085 45

7-8 EDWARD VII., A. 1908

CLASSIFICATION of Disbursements of the Dredges during the Nine Months ended March 31, 1907—Continued
DREDGE 'PRINCE LOUIS' W. J. POUPORE.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	% cts.	% cts.
Wages.....	71 00	78 47	68 50	82 20	39 50					339 67
Contingencies.....	2,053 23	3,800 40	3,949 12	3,584 91	2,070 64					15,458 35
Totals.....	2,124 23	3,878 87	4,017 62	3,667 16	2,110 14					15,798 02
Working expenses.....	2,124 23	3,878 87	4,017 62	3,667 16	2,110 14					15,798 02
Totals.....	2,124 23	3,878 87	4,017 62	3,667 16	2,110 14					15,798 02
DREDGE 'OTTO,' GENERAL CONSTRUCTION CO.										
Wages.....	78 00	81 00	75 00	81 00	73 50					388 50
Contingencies.....	2,120 25	689 45	1,703 55	1,687 50	1,441 50					7,642 25
Totals.....	2,198 25	770 45	1,778 55	1,768 50	1,515 00					8,030 75
Working expenses.....	2,198 25	770 45	1,778 55	1,768 50	1,515 00					8,030 75
Totals.....	2,198 25	770 45	1,778 55	1,768 50	1,515 00					8,030 75
DREDGE 'PREMIER,' GENERAL CONSTRUCTION CO.										
Wages.....		30 00	75 00	81 00	33 00					219 00
Contingencies.....		187 00	1,252 90	3,927 00	1,084 60					6,451 50
Totals.....		217 00	1,327 90	4,008 00	1,117 60					6,670 50
Working expenses.....		217 00	1,327 90	4,008 00	1,117 60					6,670 50
Totals.....		217 00	1,327 90	4,008 00	1,117 60					6,670 50

SESSIONAL PAPER No. 19

DREDGE 'ARNOLDI,' MARLTON DREDGING CO.

Wages.....	58 50	81 00	75 00	81 00	43 14	.....	.....	.....	338 64
Contingencies..	3,162 00	4,079 25	2,778 75	3,585 31	1,931 75	.....	.....	.....	16,137 06
Totals.....	3,220 50	4,760 25	2,853 75	3,666 31	1,974 89	.....	.....	.....	16,475 70
Working expenses.....	3,220 50	4,760 25	2,853 75	3,666 31	1,974 89	.....	.....	.....	16,475 70
Totals.....	3,220 50	4,760 25	2,853 75	3,666 31	1,974 89	.....	.....	.....	16,475 70

DREDGE 'No. 1,' C. S. BOONE.

Wages.....	78 00	81 00	3 00	.....	.....	.....	.....	.....	102 00
Contingencies.....	4,864 72	3,981 40	.....	.....	.....	.....	.....	.....	8,846 12
Totals.....	4,942 72	4,062 40	3 00	.....	.....	.....	.....	.....	9,008 12
Working expenses.....	4,942 72	4,062 40	3 00	.....	.....	.....	.....	.....	9,008 12
Totals.....	4,942 72	4,062 40	3 00	.....	.....	.....	.....	.....	9,008 12

DREDGE 'KINGSFORD,' C. S. BOONE, DREDGING AND CONSTRUCTION CO.

Wages.....	78 00	81 14	78 20	92 02	.....	.....	.....	.....	329 36
Contingencies.....	14,494 30	10,888 20	8,174 20	7,069 05	.....	.....	.....	.....	40,625 75
Totals.....	14,572 30	10,969 34	8,252 40	7,161 07	.....	.....	.....	.....	40,955 11
Working expenses.....	14,572 30	10,969 34	8,252 40	7,161 07	.....	.....	.....	.....	40,955 11
Totals.....	14,572 30	10,969 34	8,252 40	7,161 07	.....	.....	.....	.....	40,955 11

DREDGE 'No. 14,' D. MCCARTHY, C. S. BOONE.

Wages.....	78 00	81 00	75 00	81 00	45 00	.....	.....	.....	360 00
Contingencies.....	19,337 59	26,214 33	28,329 93	33,605 86	13,539 07	.....	.....	.....	121,018 38
Totals.....	19,415 59	26,295 33	28,395 93	33,686 86	13,584 07	.....	.....	.....	121,378 38
Working expenses.....	19,415 59	26,295 93	28,395 93	33,686 86	13,584 07	.....	.....	.....	121,378 38
Totals.....	19,415 59	26,295 93	28,395 93	33,686 86	13,584 07	.....	.....	.....	121,378 38

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF DISBURSEMENTS of the Dredges during the Nine Month ending March 31, 1907—*Continued.*

DREDGE 'FRANK,' BOWMAN.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	96 60	81 00	75 65	82 00	68 20					403 45
Contingencies.....	4,284 90	4,986 92	5,200 20	2,891 02	2,965 65					19,629 69
Totals.....	4,381 50	5,067 92	5,275 85	2,973 02	2,334 85					20,033 14
Working expenses.....	4,381 50	5,067 92	5,275 85	2,973 02	2,334 85					20,033 14
Totals.....	4,381 50	5,067 92	5,275 85	2,973 02	2,334 85					20,033 14

DREDGE 'No. 6,' GREAT LAKES, A. F. BOWMAN.

Wages.....	104 00	148 00	100 00	108 00	104 00					564 00
Contingencies.....	7,060 96	8,707 82	6,998 33	10,450 68	7,756 23	584 82				41,558 84
Totals.....	7,134 96	8,855 82	7,098 33	10,558 68	7,860 23	584 82				42,122 84
Working expenses.....	7,164 96	8,855 82	7,098 33	10,558 68	7,860 23	584 82				42,122 84
Totals.....	7,164 96	8,855 82	7,098 33	10,558 68	7,860 23	584 82				42,122 84

DREDGE 'No. 2,' DOMINION DREDGE AND CONSTRUCTION CO.

Wages.....	78 00	81 00	36 00							195 00
Contingencies.....	2,721 75	1,345 00	1,045 00							5,111 75
Totals.....	2,799 75	1,426 00	1,081 00							5,306 75
Working expenses.....	2,799 75	1,425 00	1,081 00							5,306 75
Totals.....	2,799 75	1,426 00	1,081 00							5,306 75

SESSIONAL PAPER No. 19

DREDGE 'ST. LAWRENCE,' MANLEY CO.

Wages.....	78 00	81 00	75 00	81 00	33 00	.....	.....	348 00
Contingencies.	5,241 52	6,230 71	4,915 47	3,533 39	2,280 85	.....	.....	22,201 94
Totals.....	5,319 52	6,311 71	4,990 47	3,614 39	2,313 85	.....	.....	22,549 94
Working expenses.....	5,319 52	6,311 71	4,990 47	3,614 39	2,313 85	.....	.....	22,549 94
Totals.....	5,319 52	6,311 71	4,990 47	3,614 39	2,313 85	.....	.....	22,549 94

DREDGE 'No. 4,' OWEN SOUND DREDGE AND CONSTRUCTION CO.

Wages.....	91 35	45 65	73 85	81 00	57 70	.....	.....	349 55
Contingencies.....	2,682 52	1,452 30	2,037 45	2,834 85	1,360 65	.....	.....	10,387 77
Totals.....	2,773 87	1,497 95	2,111 30	2,935 85	1,418 35	.....	.....	10,737 32
Working expenses.....	2,773 87	1,497 95	2,111 30	2,935 85	1,418 35	.....	.....	10,737 32
Totals.....	2,733 87	1,497 95	2,111 30	2,935 85	1,418 35	.....	.....	10,737 32

DREDGE 'OTTAWA,' MANLEY CO.

Wages.....	78 00	75 00	57 00	54 00	.....	.....	.....	264 00
Contingencies.....	3,521 44	1,090 51	2,175 60	2,641 29	.....	.....	.....	8,437 48
Totals.....	3,599 47	1,174 51	2,232 60	1,695 29	.....	.....	.....	8,701 84
Working expenses.....	3,599 44	1,174 51	2,232 60	1,695 29	.....	.....	.....	8,701 84
Totals.....	3,599 44	1,171 51	2,232 60	1,695 29	.....	.....	.....	8,701 84

DREDGE 'MEADE,' C. S. BOONE.

Wages.....	78 00	83 74	75 00	52 41	68 26	.....	.....	357 41
Contingencies.....	3,247 31	1,730 58	3,069 25	2,937 90	3,087 02	.....	.....	14,072 06
Totals.....	3,325 31	1,814 32	3,144 25	2,990 31	3,155 28	.....	.....	14,429 47
Working expenses.....	3,325 31	1,814 32	3,144 25	2,990 31	3,155 28	.....	.....	14,429 47
Totals.....	3,325 31	1,814 32	3,144 25	2,990 31	3,155 28	.....	.....	14,429 47

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF DISBURSEMENTS of the Dredges during the Nine Months ending March 31, 1907—*Continued.*
DREDGE "TRENTON", R. WEDDELL.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	72 00	81 00	75 00	77 00	.....	.....	.....	.....	.....	305 00
Contingencies.....	5,350 50	7,082 20	4,500 00	4,500 00	.....	.....	.....	.....	.....	20,531 70
Totals.....	5,422 50	7,163 20	4,665 00	4,586 00	.....	.....	.....	.....	.....	20,836 70
Working expenses.....	5,422 50	7,163 20	4,665 00	4,586 00	.....	.....	.....	.....	.....	20,836 70
Totals.....	5,422 50	7,163 20	4,665 00	4,586 00	.....	.....	.....	.....	.....	20,836 70

DREDGE "No. 5, GT. LAKES, A. F. BOWMAN.

Wages.....	104 00	158 00	100 00	104 00	100 00	25 00	.....	.....	.....	591 00
Contingencies.....	4,635 75	9,273 00	7,239 10	7,308 18	7,683 54	992 03	.....	.....	.....	37,111 60
Totals.....	4,739 75	9,431 00	7,339 10	7,472 18	7,683 54	1,017 03	.....	.....	.....	37,702 60
Working expenses.....	4,739 75	9,431 00	7,339 10	7,472 18	7,683 54	1,017 03	.....	.....	.....	37,702 60
Totals.....	4,739 75	9,431 00	7,339 10	7,472 18	7,683 54	1,017 03	.....	.....	.....	37,702 60

DREDGE "DOMINION", A. F. BOWMAN.

Wages.....	104 00	100 00	78 00	83 40	81 00	.....	.....	.....	.....	446 40
Contingencies.....	10,717 94	12,384 56	9,567 88	12,470 33	9,864 00	1,540 08	.....	.....	.....	56,544 79
Totals.....	10,821 94	12,484 56	9,645 88	12,553 73	9,945 00	1,540 08	.....	.....	.....	56,991 19
Working expenses.....	10,821 94	12,484 56	9,645 88	12,553 73	9,945 00	1,540 08	.....	.....	.....	56,991 19
Totals.....	10,821 94	12,484 56	9,645 88	12,553 73	9,945 00	1,540 08	.....	.....	.....	56,991 19

SESSIONAL PAPER No. 19

DREDGE 'NO. 8,' GREAT LAKES DG. CO.

Wages.....	104 00	108 00	100 00	108 00	104 00	..	679 20	.....	524 00
Contingencies.....	718 79	2,610 16	1,504 80	3,127 07	4,160 77			.....	12,800 79
Totals.....	822 79	2,718 16	1,604 80	3,235 07	4,264 77		679 20	.....	13,324 79
Working expenses.....	822 79	2,718 16	1,604 80	3,235 07	4,264 77		679 20	.....	13,324 79
Totals.....	822 79	2,718 16	1,604 80	3,235 07	4,264 77		679 20	.....	13,324 79

DREDGE 'NO. 9,' OWEN SOUND DG. & CONST. CO.

Wages.....	78 80	42 39	47 59	54 00	46 35	.....	.....	.....	269 13
Contingencies.....	4,991 00	5,121 56	5,236 00	1,768 00	3,277 60	.....	.....	.....	20,394 16
Totals.....	5,069 80	5,163 95	5,283 59	1,822 00	3,323 95	.....	.....	.....	20,663 29
Working expenses.....	5,069 80	5,163 95	5,283 59	1,822 00	3,323 95	.....	.....	.....	20,663 29
Totals.....	5,069 80	5,163 95	5,283 59	1,822 00	3,323 95	.....	.....	.....	20,663 29

DREDGE 'EXCELSIOR,' OWEN SOUND DG. & CONST. CO.

Wages.....	.....	.....	.....	.....	6,018 00	.....	442 00	.....	6,460 00
Contingencies.....	.....	.....	.....	.....	6,018 00	.....	442 00	.....	6,460 00
Totals.....	.....	.....	.....	.....	6,018 00	.....	442 00	.....	6,460 00
Working expenses.....	.....	.....	.....	.....	6,018 00	.....	442 00	.....	6,460 00
Totals.....	.....	.....	.....	.....	6,018 00	.....	442 00	.....	6,460 00

SESSIONAL PAPER No. 19

DREDGE 'No. 3,' DOMINION DREDGING CO.

Wages.....	78 00	73 38	39 24	25 00	190 62
Contingencies.....	3,960 00	3,297 00	2,520 00	25 00	9,772 00
Totals.....	4,038 00	3,340 38	2,559 24	25 00	9,962 62
Working expenses.....	4,038 00	3,340 38	2,559 24	25 00	9,962 62
Totals.....	4,038 00	3,340 38	2,559 24	25 00	9,962 62

DREDGE 'SIMCOE,' BROWN & AYLMER.

Wages.....	6 00	69 00	51 00	126 00
Contingencies.....	246 00	2,172 50	1,622 00	4,040 50
Totals.....	252 00	2,241 50	1,673 00	4,166 50
Working expenses.....	252 00	2,241 50	1,673 00	4,166 50
Totals.....	252 00	2,241 50	1,673 00	4,166 50

DREDGE 'L. N. L.,' WEDDELL CO.

Wages.....	104 00	108 00	100 00	104 00	524 00
Contingencies.....	5,367 88	5,373 39	4,119 68	4,185 42	25,063 98
Totals.....	5,471 88	5,481 39	4,219 68	4,289 42	26,187 98
Working expenses.....	5,471 88	5,481 39	4,219 68	4,289 42	26,187 98
Totals.....	5,471 88	5,481 39	4,219 68	4,289 42	26,187 98

7-8 EDWARD VII., A. 1908

CLASSIFICATION OF DISBURSEMENTS of the Dredges during the Nine Months ended March 31, 1907.
DREDGE 'HANEY' HANEY & MILLER.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Wages.....	125 00	125 60	125 00	125 00	125 00	49 95	.....	.....	.....	625 00
Contingencies..	1,189 35	727 00	1,015 65	838 05	1,021 20	.....	.....	.....	.....	4,841 25
Totals.....	1,314 35	852 05	1,140 65	963 05	1,146 20	49 95	.....	.....	.....	5,466 25
Working expenses..	1,314 35	852 05	1,140 65	963 05	1,146 20	49 95	.....	.....	.....	5,466 25
Totals.	1,314 35	852 05	1,140 65	963 05	1,146 20	49 95	.....	.....	.....	5,466 25

DREDGE 'TOGO' R. WADDELL.

Wages.....	.....	51 00	75 00	81 00	82 17	.....	.....	.....	.....	289 17
Contingencies.....	.....	339 15	5,308 80	4,621 75	3,059 00	.....	.....	.....	.....	13,328 70
Totals.....	.....	390 15	5,383 80	4,702 75	3,141 17	.....	.....	.....	.....	13,617 87
Working expenses.....	.....	390 15	5,383 80	4,702 75	3,141 17	.....	.....	.....	.....	13,617 87
Totals.....	.....	390 15	5,383 80	4,702 75	3,141 17	.....	.....	.....	.....	13,617 87

SESSIONAL PAPER No. 19

DREDGE 'E. HALL, NO. 1, S. B. L. T. & SALT CO.

Wages.....	79 04	27 00	.....	.....	.....	.....	.....	.....	106 04
Contingencies.....	1,655 80	1,217 20	.....	.....	.....	.....	.....	.....	2,873 00
Totals.....	.....	.....	.....	.....	.....	.....	.....	.....	2,979 04
Working expenses.....	1,734 84	1,244 20	.....	.....	.....	.....	.....	.....	2,979 04
Totals.....	1,734 84	1,244 20	.....	.....	.....	.....	.....	.....	2,979 04

DREDGE 'ONTARIO' CHATHAM DREDGING CO.

Wages.....	45 00	.....	.....	.....	.....	.....	.....	.....	45 00
Contingencies.....	1,055 40	.....	.....	.....	.....	.....	.....	.....	1,055 40
Totals.....	1,100 40	.....	.....	.....	.....	.....	.....	.....	1,100 40
Working expenses.....	1,100 40	.....	.....	.....	.....	.....	.....	.....	1,100 40
Totals.....	1,100 40	.....	.....	.....	.....	.....	.....	.....	1,100 40

DREDGE 'ST. PIÉRE' A. ST. PIÉRE.

Wages.....	24 50	67 50	62 50	67 50	45 50	.....	.....	.....	287 00
Contingencies.....	807 30	2,694 25	1,556 10	2,709 60	1,917 00	.....	.....	.....	9,683 65
Totals.....	831 80	2,761 75	1,618 60	2,776 50	1,962 00	.....	.....	.....	9,950 65
Working expenses.....	831 80	2,761 75	1,618 60	2,776 50	1,962 00	.....	.....	.....	9,950 65
Totals.....	831 80	2,761 75	1,618 60	2,776 50	1,962 00	.....	.....	.....	9,950 65

7-8 EDWARD VII., A. 1908

CLASSIFICATION AND QUANTITIES OF MATERIAL REMOVED BY DREDGES DURING THE NINE MONTHS ENDING MARCH 31, 1907.

DREDGE 'DUKE OF YORK.'

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Material other than rock	46,341	2,835 32,921	36,045	32,655	19,890	.....	.....	.....	.....	91,425 79,262
Totals	46,341	35,756	36,045	32,655	19,890	.....	.....	.....	.....	170,687

DREDGE 'CENTRAL CITY.'

Material other than rock	24,010	14,350	9,660	9,530	3,160	.....	.....	.....	.....	60,710
Totals	24,010	14,350	9,660	9,530	3,160	.....	.....	.....	.....	60,710

DREDGE 'PRINCE LOUIS.'

Material other than rock	20,409	47,505	49,364	39,277	18,824	.....	.....	.....	.....	175,379
Totals	20,409	47,505	49,364	39,277	18,824	.....	.....	.....	.....	175,379

DREDGE 'ST. PIERRE.'

Material other than rock	7,980	19,045	10,750	20,670	10,170	.....	.....	.....	.....	68,625
Totals	7,980	19,045	10,750	20,670	10,170	.....	.....	.....	.....	68,625

SESSIONAL PAPER No. 19

DREDGE 'OTTO.'

Material other than rock	6,475	2,125	5,455	5,400	4,650	.....	.....	.....	24,105
Totals	6,475	2,125	5,455	5,400	4,650	.....	.....	.....	24,105

DREDGE 'PREMIER.'

Material other than rock .....	.....	1,100	7,370	23,100	6,380	.....	.....	.....	37,950
Totals .....	.....	1,100	7,370	23,100	6,380	.....	.....	.....	37,950

DREDGE 'NITHSDALE.'

Material other than rock	3,220	3,430	2,240	1,750	2,450	.....	.....	.....	13,090
Totals	3,220	3,430	2,240	1,750	2,450	.....	.....	.....	13,090

DREDGE 'PROGRESS.'

Material other than rock	18,400	14,900	14,300	5,550	3,150	.....	.....	.....	56,300
Totals	18,400	14,900	14,300	5,550	3,150	.....	.....	.....	56,300

DREDGE 'RICHELIEU.'

Material other than rock	8,290	8,450	3,900	3,625	2,350	.....	.....	.....	26,625
Totals	8,290	8,450	3,900	3,625	2,350	.....	.....	.....	26,625

DREDGE 'INTERNATIONAL.'

Material other than rock	8,250	12,750	7,500	20,250	6,500	.....	.....	.....	55,250
Totals	8,250	12,750	7,500	20,250	6,500	.....	.....	.....	55,250

7-8 EDWARD VII., A. 1908

CLASSIFICATION AND QUANTITIES OF Material removed by Dredges during the Nine Months ending March 31, 1907—Continued.

DREDGE 'SIR RICHARD.'

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Material other than rock.	16,409	15,300	15,400	16,100	8,800	.....	.....	.....	.....	72,000
Totals.	16,409	15,300	15,400	16,100	8,800	.....	.....	.....	.....	72,000

DREDGE 'CHALLENGE.'

Material other than rock.	8,450	10,300	12,050	10,400	.....	.....	.....	.....	.....	41,200
Totals.	8,450	10,300	12,050	10,400	.....	.....	.....	.....	.....	41,200

DREDGE 'NIPISSING.'

Material other than rock.	17,025	10,575	.....	1,500	1,300	.....	.....	.....	.....	30,400
Totals.	17,025	10,575	.....	1,500	1,300	.....	.....	.....	.....	30,400

DREDGE 'ONTARIO.'

Material other than rock.	8,055	5,780	5,496	.....	9,465	.....	.....	.....	.....	28,790
Totals.	8,055	5,780	5,490	.....	9,465	.....	.....	.....	.....	28,790

DREDGE 'ST. LOUIS.'

Material other than rock.	4,497	4,905	4,950	5,175	720	.....	.....	.....	.....	22,247
Totals.	4,497	4,905	4,950	5,175	720	.....	.....	.....	.....	22,247

SESSIONAL PAPER No. 19

DREDGE 'QUEEN.'

Material other than rock.....	7,668	10,224	9,696	8,640	720	.....	.....	.....	36,948
Totals. ..	7,668	10,224	9,696	8,640	720	.....	.....	.....	36,948

DREDGE 'MATTAWA.'

Material other than rock.....	13,400	16,400	11,200	9,800	2,800	.....	.....	.....	53,600
Totals.....	13,400	16,400	11,200	9,800	2,800	.....	.....	.....	53,600

DREDGE 'ARNOLDI.'

Material other than rock.	13,860	15,045	9,795	6,380	1,622	.....	.....	.....	46,702
Totals.	13,860	15,045	9,795	6,380	1,622	.....	.....	.....	46,702

DREDGE 'No. 1 BOONE.'

Material other than rock.	14,308	11,710	.....	.....	.....	.....	.....	.....	26,018
Totals.....	14,308	11,710	.....	.....	.....	.....	.....	.....	26,018

DREDGE 'KINGSFORD.'

Material other than rock.....	6,340	1,898	3,554	5,028	894	.....	.....	.....	17,715
Totals.....	6,340	1,898	3,554	5,028	894	.....	.....	.....	17,715

DREDGE 'No. 14 BOONE.'

Rock.	11,154	16,488	16,339	19,388	7,811	.....	.....	.....	71,180
Totals. ..	11,154	16,488	16,339	19,388	7,811	.....	.....	.....	71,180

SESSIONAL PAPER No. 19

DREDGE 'No. 4,' O. S. D. CO.

Material other than rock.....	22,830	12,360	17,340	24,180	11,580	.....	.....	.....	88,290
Totals.....	22,830	12,360	17,340	24,180	11,580	.....	.....	.....	88,290

DREDGE 'OTTAWA.'

Material other than rock.....	15,556	5,928	.....	.....	.....	.....	.....	.....	18,484
Rock.....	.....	7,828	15,540	11,718	.....	.....	.....	.....	33,086
Totals.....	15,556	13,756	15,540	11,718	.....	.....	.....	.....	53,570

DREDGE 'MEADE.'

Material other than rock.....	24,508	13,061	20,995	19,918	20,929	.....	.....	.....	99,411
Totals.....	24,508	13,061	20,995	19,918	20,929	.....	.....	.....	99,411

DREDGE 'TRENTON.'

Material other than rock.....	18,450	13,580	30,000	30,000	.....	.....	.....	.....	92,690
Totals.....	18,450	13,580	30,000	30,000	.....	.....	.....	.....	92,690

DREDGE 'No. 5,' G. L. D. CO.

Material other than rock.....	50,951	100,262	75,000	78,142	76,649	10,649	.....	.....	391,653
Totals.....	50,951	100,262	75,000	78,142	76,649	10,649	.....	.....	391,653

DREDGE 'DOMINION.'

Material other than rock.....	118,392	135,834	101,398	124,423	101,643	17,112	.....	.....	598,742
Totals.....	118,392	135,834	101,398	124,423	101,643	17,112	.....	.....	598,742

7-8 EDWARD VII., A. 1908

CLASSIFICATION AND QUANTITIES OF MATERIAL REMOVED BY DREDGES DURING THE NINE MONTHS ENDING MARCH 31, 1907—Continued.
DREDGE 'No. 8,' GREAT LAKES DREDGE CO.

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Material other than rock.....	6,427	21,182	16,720	31,619	42,525	6,792	.....	.....	.....	125,265
Totals.....	6,427	21,182	16,720	31,619	42,525	6,792	.....	.....	.....	125,265

DREDGE 'No. 9,' OWEN SOUND DREDGE AND CONSTRUCTION CO.										
Material other than rock.....	6,200	11,734	15,400	14,600	9,640	.....	.....	.....	.....	57,574
Rock.....	1,400	566	.....	.....	.....	.....	.....	.....	.....	1,966
Totals.....	7,600	12,300	15,400	14,600	9,640	.....	.....	.....	.....	59,540

DREDGE 'EXCELSIOR.'										
Material other than rock.....	.....	.....	.....	.....	17,700	1,300	.....	.....	.....	19,000
Totals.....	.....	.....	.....	.....	17,700	1,300	.....	.....	.....	19,000

DREDGE 'MONARCH.'										
Material other than rock.....	.....	6,279	10,633	19,875	26,515	1,375	.....	.....	.....	64,677
Rock.....	.....	2,876	3,737	.....	.....	.....	.....	.....	.....	6,613
Totals.....	.....	9,155	14,370	19,875	26,515	1,375	.....	.....	.....	71,290

DREDGE 'KING EDWARD.'										
Material other than rock.....	.....	.....	200	1,920	7,360	.....	.....	.....	.....	9,480
Totals.....	.....	.....	200	1,920	7,360	.....	.....	.....	.....	9,480

SESSIONAL PAPER No. 19

DREDGE 'No. 3,' DOMINION DREDGE CO.

Material other than rock.	22,000	18,150	14,000	.....	.....	.....	.....	.....	.....	54,150
Totals.	22,000	18,150	14,000	.....	.....	.....	.....	.....	.....	54,150

DREDGE 'SLIMCOE.'

Material other than rock.	984	7,042	5,040	.....	.....	.....	.....	.....	.....	13,066
Totals.	984	7,042	5,040	.....	.....	.....	.....	.....	.....	13,066

DREDGE 'I.X.L.'

Material other than rock.	56,504	56,562	43,365	69,659	44 057	.....	.....	.....	.....	270 147
Totals.	56,504	56,562	43,365	69,659	44 057	.....	.....	.....	.....	270 147

DREDGE 'HANEY.'

Material other than rock.	7,448	4,847	6,771	5,587	6,808	333	.....	.....	.....	31,794
Totals.	7,448	4,847	6,771	5,587	6,808	333	.....	.....	.....	31,794

DREDGE 'TOGO.'

Material other than rock. ....	.....	969	15,168	13,205	8,740	.....	.....	.....	.....	38,078
Totals. ....	.....	969	15,168	13,205	8,740	.....	.....	.....	.....	38,078

DREDGE 'E. HALL, NO. 1.'

Material other than rock.	9,740	7,160	.....	.....	.....	.....	.....	.....	.....	16,900
Totals.	9,740	7,160	.....	.....	.....	.....	.....	.....	.....	16,900

7-8 EDWARD VII., A. 1908

CLASSIFICATION AND QUANTITIES OF Material removed by Dredges during the Nine Months ended March 31, 1906—*Continued.*

DREDGE 'No. 5, R. McD.'

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Grand Total.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
Material other than rock. . . . .	.....	20,584	.....	.....	.....	.....	.....	.....	.....	20,584
Totals. . . . .	.....	20,584	.....	.....	.....	.....	.....	.....	.....	20,584

DREDGE 'No. 6, R. McD.'

Material other than rock. . . . .	.....	.....	27,420	31,540	26,700	.....	.....	.....	.....	85,660
Totals. . . . .	.....	.....	27,420	31,540	26,700	.....	.....	.....	.....	85,660

DREDGE 'LITTLE GIANT.'

Material other than rock.	18,830	15,760	13,340	22,300	17,050	.....	.....	.....	.....	87,280
Totals.	18,830	15,760	13,340	22,300	17,050	.....	.....	.....	.....	87,280

DREDGE 'QUEBEC.

Material other than rock.	16,000	14,520	14,335	15,390	11,340	.....	.....	.....	.....	71,605
Rock. . . . .	.....	.....	1,035	.....	.....	.....	.....	.....	.....	1,035
Totals.	16,000	14,520	15,390	15,390	11,340	.....	.....	.....	.....	72,640

SESSIONAL PAPER No. 19

DREDGE 'No. 1,' T. F. M. Co.

Material other than rock.....	14,850	14,100	8,350	10,350	6,850	.....	.....	55,100
Totals.....	14,850	14,100	8,350	10,350	6,850	.....	.....	55,100

DREDGE 'No. 2,' T. F. M. Co.

Material other than rock.....	14,820	10,973	7,125	11,543	8,265	.....	.....	52,726
Totals.....	14,820	10,973	7,125	11,543	8,265	.....	.....	52,726

DREDGE 'No. 4,' G. G. C.

Material other than rock.....	5,748	10,195	4,570	3,945	5,650	.....	.....	30,108
Rock.....	.....	.....	280	55	.....	.....	.....	285
Totals.....	5,748	10,195	4,800	4,000	5,650	.....	.....	30,393

DREDGE 'CHATEAUGUAY.'

Material other than rock.....	23,240	22,120	21,630	18,480	.....	.....	.....	85,470
Totals.....	23,240	22,120	21,630	18,480	.....	.....	.....	85,470

DREDGE 'CANADA.'

Material other than rock.....	7,190	9,550	9,850	12,590	.....	.....	.....	39,180
Rock.....	.....	100	.....	.....	.....	.....	.....	100
Totals.....	7,190	9,650	9,850	12,590	.....	.....	.....	39,280

DREDGE 'PONTIAC.'

Material other than rock.....	28,595	14,590	.....	.....	.....	.....	.....	14,590
Totals.....	28,595	16,440	.....	.....	.....	.....	.....	45,035
	28,595	31,030	.....	.....	.....	.....	.....	60,625

SESSIONAL PAPER No. 19

PROVINCE OF MANITOBA.

DREDGING ASSINIBOINE RIVER IN THE VICINITY OF WINNIPEG.

During the past season, an orange peel excavator has been employed in removing boulders and other obstructions to navigation, in the St. James rapids, Assiniboine river.

For the purpose, a scow belonging to the plant taken over at St. Andrews has been fitted with an orange peel bucket and hoisting engine.

Considering the small initial outlay in fitting up, and that the dredge is easily handled with a crew of five, very economical work has been done with this dredge.

From July 1 to October 22, a distance of 8,280 feet was cleared of obstructions for an average width of 45 feet. The material excavated which consisted mostly of boulders and gravel, was cast to both sides, and it was therefore impossible to form any idea of the amount of material moved.

Navigation of the Assiniboine river from Winnipeg upwards is only possible at high stages of the water, and as there is a considerable fall in the river slope, due to the St. James rapids, it is questionable if much improvement can be effected by dredging in these rapids. Dredging is likely to increase the discharge capacity of the river and accelerate the annual low water period.

A system of low water reaches and locks in conjunction with dams would seem to be the solution for permanent and continuous navigation.

The expenditure on this work for the fiscal year was \$2,004.40.

Of this amount \$306 was incurred in towing dredge.

DREDGING LAKE MANITOBA.

The unusually low water this season has occasioned considerable difficulty to navigation on Lake Manitoba. The Manitoba Gypsum Company are the principal shippers on Lake Manitoba and transport gypsum and plaster of paris from their quarry and mill at Gypsumville, north end of the lake, to Westbourne Landing, on the White Mud river. During the season, dredge *Manitoba* operated from July 1 to 25, and August 25 to October 10, at Gypsumville, in dredging out a channel to the Manitoba Gypsum Company's landing. A total of 8,653 cubic yards of hard-pan, clay and boulders were removed.

From July 26 to 31 and October 11 to 19, 3,266 cubic yards of sand, clay and boulders were removed in making a channel from deep water to the docks at Einarrson's landing, Lake Manitoba. From August 4 to 10, 2,671 cubic yards were removed in increasing the depth of the channel at the mouth of the White Mud river. This material consisted of fine sand and clay, and exists in the form of a bar caused by alluvial deposit carried down by the White Mud river.

From October 21 to 30, 2,012 cubic yards of fine sand and clay were removed in increasing the depth at the Manitoba Gypsum Company's landing, at Totogan, on the White Mud river.

The total material removed during the season amounted to 16,602 cubic yards at a cost of \$5,321.41.

The detentions were 21 days from heavy winds and 15 days from repairs to dredge and scow.

Dredge *Manitoba* and equipment was laid up at winter quarters on October 30, at Westbourne Landing.

7-8 EDWARD VII., A. 1908

DREDGING MOUTH OF RED RIVER, LAKE WINNIPEG.

The dredging at the mouth of the Red river has been confined, this season, to the maintenance of the old channel. The past season has been one of unprecedented low water and storms. New low water elevations have been established on all the lakes and rivers throughout the province. A sufficient depth was maintained throughout the season to afford satisfactory navigation. The maintenance of this channel involves considerable difficulty, as the channel is exposed to the prevailing winds and there is a long tow for shelter.

During the season, 29 days were lost owing to heavy winds and considerable time was taken up in towing in and out to position.

From July 1 to October 5, a total quantity of 27,750 cubic yards was removed. The material consisted of alluvial deposit of fine sand and clay. The expenditure on this work was \$7,550.37, a cost of 27.20 cents per cubic yard. From November 1 to 8, dredge *Winnipeg* and equipment were laid up in winter quarters and the machinery overhauled preparatory to having repairs made for next season's operations.

A study of the conditions existing at the mouth of the Red river has been made, and during the month of March a hydrographic survey of the old and new channels was made. Soundings were carried out in both of these channels to the 9 foot low water contour, and permanent gauges and triangulation points on shore established. It is expected that from the data obtained from this survey we shall be in a position to have dredging done at the most advantageous places.

The annual maintenance of the old channel at the mouth of the Red river entails considerable work of a costly nature, due to the fact that about $1\frac{1}{2}$ miles of dredging is required in a locality exposed to storms. As noted previously, considerable time is lost from bad weather and also in towing, the distance from shelter to end of dredged channel is $2\frac{1}{4}$ miles.

DREDGING IN MOSSY RIVER, WINNIPEGOSIS.

During the past season dredge *Priestman* was employed in maintaining the channel leading out to deep water on Lake Winnipegosis, at the mouth of the Mossy river.

The bar at the mouth of this river is characteristic of those formed at the mouths of all rivers passing through light prairie earth and clay, and is alluvial deposit which accumulates yearly, and needs constant dredging.

Dredging was carried on during the period from July 2 to October 20, during which period the loss of time due to heavy winds was twenty days.

A total quantity of 13,643 cubic yards of fine sand and clay was removed, at a cost of \$4,537.04.

DREDGING WEST SLOUGH, SELKIRK.

From October 8 to November 1, dredge *Winnipeg* removed an amount of 4,260 cubic yards from the Slough, Selkirk, in connection with the forming of a turning basin at the dock of the Dominion Fish Company, and also in giving a sufficient depth for the fleet using the Slough for winter quarters.

The cost of this dredging was \$990.94.

DREDGE VESSEL REPAIRS.

The various dredges and equipment have been thoroughly overhauled and repairs effected this spring, for next season's work.

Dredge *Priestman*.—Repairs to hoisting drum and new hoisting chain purchased.

SESSIONAL PAPER No. 19

Dredge *Manitoba*.—New oak anchors; new dipper arms with reinforcing angles; swing joint for main steampipe; gate bars for boiler of tug *Carberry*. Scow hauled up, repaired, planked and caulked.

Dredge *Crane*.—New steel points for orange peel bucket and repairs to bucket; new set of guide sheaves and plates for hoisting cable; new boiler tubes for hoisting engine.

Dredge *Winnipeg*.—A new locomotive tube boiler was built under contract with the Manitoba Iron Works and installed. New hoisting drum; swinging table strengthened and reinforced with iron angles.

Tug *Sir Hector*.—Repairs and caulking and coal and dump scows. A new hull will be required for the season of 1907-8, as the present hull is twenty-three years old. The present hull has been inspected and condemned by the steamboat inspector.

7-8 EDWARD VII., A. 1908

PROVINCE OF BRITISH COLUMBIA.

DREDGING—BRITISH COLUMBIA.

This service covers, ordinarily, the running expenses of the hydraulic dredge *King Edward* on the Fraser river, and those of the snag boat *Samson*. In addition, owing to the appropriation for Victoria harbour being exhausted, we were allowed to charge the expenditure in connection with the dredge *Mud Lark* to the above appropriation. The details of the expenditure are as follows:—

(a) Dredge *King Edward*—

Wages	\$10,359 22
Material.	2,622 67
Provisions	2,786 82
Fuel.	4,017 00
Water	5 90
Tug-hire.	2,460 50
Contingencies.	82 05
	<hr/> \$22,234 16

(b) Snag boat *Samson*—

Wages.	\$6,415 71
Material.	1,202 15
Provisions.	1,863 57
Fuel.	1,382 62
Water	46 06
Tug-hire	70 00
Contingencies.	44 45
	<hr/> 10,960 56

(c) Dredge *Mud Lark*—

Wages	\$4,087 19
Material.	602 07
Provisions.	618 53
Fuel.	765 00
Water.	23 35
	<hr/> 6,096 14

Total. \$39,390 86

KENNEDY LAKE.

The work of improving the outlet from this lake to salt water, in connection with Anderson lake, has been in progress for some years, and is, I consider, now practically completed. Owing to the unusually wet season of the past year, we were interrupted by high water at the time usually considered the most favourable for this work. The expenditure has been as follows:—

Wages.	\$1,075 39
Material.	148 87
Provisions.	206 31
	<hr/>
Total.	\$1,430 57

SESSIONAL PAPER No. 19

VICTORIA HARBOUR.

The dredge *Mud Lark* and our drilling plant have been continuously employed on this work during the past fiscal year, to the gradual improvement of harbour and docking facilities at the new Canadian Pacific Railway wharfs and those of the Alaska Trading Company, as well as at the outer wharf. General work has, in addition, been done on the entrance channel, when plant was not otherwise engaged. The expenditure has been as follows:—

Mud Lark—

Wages.	\$7,208 95	
Provisions.	1,875 62	
Material.	1,310 63	
Fuel	1,507 50	
Water	37 15	
Contingencies.	1 50	
	<hr/>	\$11,941 35

Drilling plant—

Wages.	\$5,757 50	
Material	1,954 76	
Fuel.	326 50	
Water	4 25	
	<hr/>	8,043 01
Total		\$19,984 36

NEW DREDGING PLANT.

The expenditure under this head has been in connection with the construction of the hull and upper works of the new snag boat for the Skeena river. The engines and machinery are under contract by the Schaafe Machinery Works here, and will be installed as soon as completed. A delay has been entailed in getting the boiler plates, and she will hardly be completed in time to be of use on the Skeena this year. She can, however, be housed in the government boom here and placed in commission in the early spring or so soon as the Skeena river is clear of ice and will admit of her working.

In addition to the above, there is a charge for some alterations and equipment of the tug *Petrel*, outside of the contract, and chargeable to this service.

The details of the expenditure are as follows:—

Skeena snag boat—

Wages.	\$5,057 36	
Material.	4,114 56	
	<hr/>	\$9,171 92

Steamer *Petrel*—

Material.	\$ 813 82	
	<hr/>	813 82
Total.		\$9,985 74

7-8 EDWARD VII., A. 1908

DREDGE REPAIRS—BRITISH COLUMBIA.

Owing to an accident and collapse of the 'A' frame of the dredge *King Edward* in July, 1906, and the installation of a new suction pipe, the repairs have been unusually heavy.

The expenditure in connection with the different vessels, under the head of 'Repairs' has been as follows:—

(a) Dredge *King Edward*—

Ordinary	\$3,053 50	
Extraordinary	701 70	
		<hr/> \$3,755 20

(b) Snag boat *Samson*—

Ordinary	\$1,532 04	
		<hr/> 1,532 04

(c) Dredge *Mud Lark*—

Ordinary	\$2,565 19	
Extraordinary	1,383 50	
		<hr/> 3,948 69

Total	\$9,235 93	<hr/> <hr/>
-----------------	------------	-------------

SESSIONAL PAPER No. 19

DREDGING PLANT UNDER THE CONTROL OF THE DEPARTMENT OF
PUBLIC WORKS, 1907.

MARITIME PROVINCES.

'St. Lawrence' self-propelling elevator dredge.

Length over all—170·0 feet.
Beam—30·0 feet.
Least working depth—8·5 feet.
Greatest working depth—28·0 feet.
Capacity of hopper—350 cubic yards.
Daily dredging in hard material—350 to 700 cubic yards.
Daily dredging in ordinary earth—750 to 1,000 cubic yards.
Daily dredging in soft earth—1,050 to 1,400 cubic yards.

'Canada' self-propelling elevator dredge.

Length over all—130·0 feet.
Beam—20·0 feet.
Least working depth—7·0 feet.
Greatest working depth—16·0 feet.
Capacity of hopper—90 cubic yards.
Daily dredging in hard bottom—180 to 270 cubic yards.
Daily dredging in ordinary material—180 to 360 cubic yards.
Daily dredging in soft material—360 to 450 cubic yards.

'Prince Edward' spoon dredge.

Length—80 feet.
Width—28 feet.
Greatest working depth—21 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging in ordinary material—500 cubic yards.
Daily rate of dredging in soft material—700 cubic yards.
Number of accompanying dump scows or barges, 3.
Capacity of bucket or spoon, $1\frac{1}{2}$ cubic yards.

'Geo. McKenzie' spoon or dipper dredge (wooden hull).

Length—90 feet.
Width—28 feet.
Greatest working depth—22 feet.
Daily rate of dredging in hard material—350 cubic yards.
Daily rate of dredging in ordinary bottom—500 cubic yards.
Daily rate of dredging in soft material—600 cubic yards.
Number of dump scows or barges used—3.

7-8 EDWARD VII., A. 1908

'Cape Breton' boom and dipper dredge (steel hull).

Length—91 feet.

Beam—36 feet.

Greatest working depth—34 feet.

Daily rate of dredging in hard material—1,000 cubic yards.

Daily rate of dredging in ordinary bottom—1,500 cubic yards.

Daily rate of dredging in soft bottom—2,000 cubic yards.

The spoon 'New Dominion' (wooden hull).

Length over all—90 feet.

Width—28 feet.

Greatest working depth—21 feet.

Daily rate of dredging in hard material—300 cubic yards.

Daily rate of dredging in ordinary material—450 cubic yards.

Daily rate of dredging in soft material—600 to 700 cubic yards.

The clam shell dredge 'New Brunswick' (wooden hull).

Length over all—90 feet.

Width—25 feet.

Greatest working depth—17 feet.

Daily rate of dredging in hard material—180 cubic yards.

Daily rate of dredging in ordinary material—300 cubic yards.

Daily rate of dredging in soft material—650 cubic yards.

The 'W. S. Fielding' combined elevator and hydraulic hopper dredge.

Length—250 feet.

Beam—42 feet.

Depth—18 feet.

Working depth—60 feet.

Capacity of hoppers—1,000 cubic yards.

Daily output of buckets—2,600 cubic yards.

The Spoon Dredge 'Montague' (steel hull).

Length over all—90 feet.

Width—37 feet 8 inches.

Draught—5 feet 6 inches.

Greatest working depth—28 feet.

Daily rate of dredging, 10 hours—1,000 cubic yards.

Number of barges used (each 72 feet long 19 feet 8 inches wide, depth 7 feet)—2.

The Sand Pump Dredge 'Northumberland' (steel hull).

Length—130 feet.

Agitator—65 feet.

Width—52 feet.

Draught—7 feet.

Working depth—40 feet.

Daily working capacity—4,000 cubic yards in ten hours.

SESSIONAL PAPER No. 19

Tug 'Cricket.'

Length—36·5 feet.
Beam—7·3 feet.
Draught—3·10 feet.
Horse-power—4.

Tug 'Rona.'

Length—85·0 feet.
Beam—19·3 feet.
Draught—8·0 feet.
Horse-power—25.
One pile driver, with boiler and engine mounted on scow.
One stone lifter with large grips (no boiler).

QUEBEC AND ONTARIO.

'Queen' dipper dredge.

Length—65·3 feet.
Beam—25·0 feet.
Greatest working depth—17·0 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging in ordinary material—400 cubic yards.
Daily rate of dredging in soft material—600 cubic yards.
(Dredge attended by tug *Sensation* and two dump scows) of 30 cubic yards capacity.

'Nipissing' dipper dredge.

Length—70·7 feet.
Beam—25·0 feet.
Greatest working depth—20·0 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging in soft material—500 cubic yards.
Daily rate of dredging in ordinary material—500 cubic yards.
Capacity of bucket—3 cubic yards.
(Attended by tug *Deslisle*, 2 dump scows and 1 coal tender.)

'Ontario' dipper dredge.

Length—75·0 feet.
Beam—25·0 feet.
Greatest working depth—22·0 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging in ordinary material—500 cubic yards.
Daily rate of dredging in soft material—800 cubic yards.
(Attended by tug *Sir John* and 2 dump scows.)

'Challenge' dipper dredge.

Length—70·5 feet.
Beam—25·0 feet.
Greatest working depth—21·10 feet.
Daily rate of dredging in hard material—300 cubic yards.
Daily rate of dredging in ordinary material—500 cubic yards.
Daily rate of dredging in soft material—800 cubic yards.
(Attended by tug *Trudeau* and 2 dump scows.)

7-8 EDWARD VII., A. 1908

'St. Louis' spoon dredge.

Length—50·0 feet.

Beam—14·0 feet.

Greatest working depth—12·0 feet.

Daily rate of dredging in hard material—50 cubic yards.

Daily rate of dredging in soft material—300 cubic yards.

(Attended by tug *Daisy* and 2 dump scows.) Used only in light work.*'Twin stone lifter' (catamaran).*

Length of each wooden hull—42·0 feet.

Beam of each wooden hull—8·5 feet.

Distance between hulls—7·0 feet.

'Reserve' wooden scow.

Length—59·0 feet.

Beam—17·0 feet.

Capacity—100 tons.

'Sir Richard' dredge.

Length—80·0 feet.

Beam—28·0 feet.

Greatest working depth—22·0 feet.

Daily rate of dredging in hard material—300 cubic yards.

Daily rate of dredging in ordinary material—500 cubic yards.

Daily rate of dredging in soft material—800 cubic yards.

Capacity of bucket—3 cubic yards.

(Dredge attended by tug *St. Paul*.)*'Richelieu' dredge.*

Length—70·0 feet.

Beam—22·0 feet.

Daily rate of dredging in ordinary material—400 cubic yards.

(Attended by tug *Ottawa* and 2 dump scows.)*'Steam stone lifter' centre well.*

Length—25·0 feet.

Beam—23·0 feet.

Depth—4·0 feet.

(Attended by 130-foot scow as coal tender.)

'St. Maurice' dredge.

(A small dredge used on the River St. Maurice only.)

Tug *Annette* and stone lifter.*'Lake St. John dredge.'*

(A small dredge used in Lake St. John only.)

Tug *Marie-Louise* on Lake St. John.

SESSIONAL PAPER No. 19

'International' dipper dredge.

Length—109·6 feet.

Beam—41·0 feet.

Greatest working depth—60·0 feet.

Daily dredging, in hard material—1,000 cubic yards.

Daily dredging, in ordinary material—1,500 cubic yards.

Daily dredging in soft material—2,000 cubic yards.

'Progress' dredge.

Length—90·10 feet.

Beam—39·2 feet.

Greatest working depth—30·0 feet.

Daily rate of dredging in hard material—500 cubic yards.

Daily dredging in ordinary material—1,000 cubic yards.

Daily dredging in soft material—1,500 cubic yards.

(Dredge attended by tug *Monitor* and 3 scows.)

'Mattawa' dipper dredge.

Length—75·0 feet.

Beam—25·0 feet.

Greatest working depth—25·0 feet.

Daily rate of dredging in ordinary material—1,000 cubic yards.

(Dredge attended by tug *Catherine* and 2 dump scows.)

'Dredge No. 1' on River St. Louis Feeder.

Length—55·0 feet.

Beam—20·0 feet.

Greatest working depth—12·0 feet.

Daily rate of dredging—300 to 400 yards.

'Dredge No. 2' dipper dredge.

Length—60·0 feet.

Beam—22·0 feet.

Greatest working depth—14·0 feet.

Daily rate of dredging, ordinary material—400 cubic yards.

'Dredge No. 6' dipper dredge.

Length—97 feet.

Beam—36·4 feet.

Greatest working depth—35 feet.

Daily rate of dredging ordinary material—1,500 cubic yards.

(Tugs *Speedy*, *Montmorency*, *Blanche*. Schooner *Rutherford*.)

MANITOBA.

'Winnipeg' dipper dredge.

Length—71·0 feet.

Beam—25·0 feet.

Greatest working depth—20·0 feet.

Daily rate of dredging in hard material—300 cubic yards.

Daily rate of dredging in ordinary material—500 cubic yards.

Daily rate of dredging in soft material—800 cubic yards.

19—iv—17

7-8 EDWARD VII., A. 1908

'Manitoba' dipper dredge.

Length—60 feet.

Beam—24 feet.

(Dredge attended by tug *Victoria* and two dump scows.)*'Priestman,' barge and clam shell dredge.*

A small dredge, old and not much good.

'Crane,' orange peel dredge.

A scow fitted up as a dredge.

BRITISH COLUMBIA.

'King Edward' propelling hydraulic dredge.

Length—125 feet.

Beam—32 feet.

Greatest working depth—40 feet.

'Mud Lark' dipper dredge.

Length—90 feet.

Beam—30 feet.

Greatest working depth—40 feet.

Daily rate of dredging in hard material—300 to 400 cubic yards.

Daily rate of dredging in ordinary material—500 to 600 cubic yards.

Daily rate of dredging in soft material—800 cubic yards.

(Dredge attended by tug *Princess* and three dump scows.)*'Nakusp,' self-propelling dipper dredge.*

Length—80 feet.

Beam—25 feet.

Boom—50 feet.

Dipper capacity— $\frac{3}{4}$ foot.*Tug boat 'Muskrat II.'*

Length—80 feet.

Beam—20 feet.

'Samson' snag boat.

Length—115 feet.

Beam—30 feet.

'Petrel' and tender.

Length—85 feet.

Beam—17 feet.

Horse-power—280.

SESSIONAL PAPER No. 19

DRY DOCKS.

The Dominion government owns and operates three dry docks, viz.: the Lorne dry dock, at Lévis, in the province of Quebec; the Kingston dry dock, at Kingston, in the province of Ontario, and the Esquimalt dry dock, at Esquimalt, near the city of Victoria, in British Columbia.

LÉVIS DRY DOCK.

This dock was kept in an efficient manner during the fiscal year 1906-7. The usual repairs required for the proper maintenance of this property were carried on during the year.

The total expenditure incurred to March 31, 1907, was \$10,209.77.

Total amount of revenue, \$6,903.29.

KINGSTON DRY DOCK.

During the past year the dock has been occupied 128 days by twenty ships with a total tonnage of 65,941 tons. Revenue collected was \$19,627.04.

Besides the docking and undocking of ships, the work of renewing the old box drain around the dock has been carried on throughout the year and it is now nearly all replaced by vitrified pipe.

Trenches have been dug and sewer pipes laid to the office and other buildings, so that patent closets can be installed.

The engines and boilers have been carefully attended and repaired when necessary as well as the pumps and drains, so that the whole plant is in an efficient state of repair.

Scows, boats and rafts have been repaired and are kept at all times in readiness for use.

Leaves and other objectionable matters have been cleaned off the grounds and the place kept in a proper manner.

Expenditure during fiscal year 1906-7, \$4,213.41.

ESQUIMALT GRAVING DOCK.

This service shows a material increase in receipts over previous years, even when Esquimalt harbour was occupied by His Majesty's ships, as a naval station, and it is to be hoped that the commercial requirements will continue to yield so satisfactory a result.

The usual list of ships docked and revenue collected for the past nine months, constituting the fiscal year of 1906-7, will be found in report of collector of revenue, part 6.

The expenditure for maintenance and repairs remains practically a constant annual quantity of \$15,000, and, for the past abbreviated fiscal year, was as follows:—

Wages.....	\$ 6,331 22
Material... ..	1,363 65
Telephone.....	89 40
Water.....	756 30
Typewriter.....	105 00
Contingencies.....	14 87
Fuel.....	1,402 50
Electric light.....	27 92

Total.....\$ 10,090 86

7-8 EDWARD VII., A. 1908

YAMASKA LOCK.

The River Yamaska flows through the county of the same name and empties into the St. Lawrence, on the southern shore at the head of Lake St. Peter, eight miles below Sorel.

The construction of the lock and dam, commenced in August, 1881, was completed at the end of August, 1885. The total cost of the construction amounts to \$87,465.43.

By the construction of these works, and by dredging done subsequently in the channel below the lock, the river has been rendered navigable for vessels of moderate draught (5 feet 6 inches) up to Belle Pointe or St. Aimé, a distance of twenty miles.

The dam of the 'Petit Chenal' requiring to be renewed, material was purchased, the work to be done at low water.

Total expenditure in 1906-7, \$2,814.97.

SLIDES AND BOOMS.

The Dominion government owns and operates slides and boom works, built to facilitate the passage of square timber, round logs, flatted and dimension timber, &c., on the River Ottawa and tributaries: on the St. Maurice river, the Saguenay river, and at Fenelon Falls, and Burleigh Falls on the Trent river.

In the subjoined reports, the superintending engineers of the river works, Messrs. G. P. Brophy, F. X. Lefebvre, and J. C. Taché, give particulars relative to the construction, improvements and repairs carried out under their supervision on government slides, booms, piers, dams, streams, buildings, &c., during the fiscal year, the expenditure incurred for staff, maintenance, improvements, &c., the quantities of the various descriptions of timber that pass through their works, and other information of general interest and utility to lumbermen and the public at large.

REPORT ON THE OTTAWA RIVER WORKS.

(By G. P. Brophy, Suprintending Engineer.)

OTTAWA, May 31, 1907.

The Chief Engineer,
Department of Public Works,
Ottawa.

SIR,—As requested by you in your circular of the 25th of April last, I have the honour to submit the following report on the works under my charge, for the fiscal period from July 1, 1906, to March 31, 1907.

The customary examination of the works was made at low water season, and the necessary repairs were carried out during the fall and winter months.

The following is a description of the work done.

REPAIRS AT STATIONS ON OTTAWA RIVER—MAIN STREAM.

North Chaudière or Hull.—At this station, the water in the Ottawa fell so much in the fall months, that it became difficult to pass logs and timber through the upper slide, and steps had to be taken to improve the conditions existing. A number of tiers of old flooring which had been laid from time to time, was removed down to the original floor, and the clear opening was reduced from 12 feet to 7 feet in width, thus giving about the same sectional area, but increased depth, with the same quantity of water available.

Side walls were built about 30 feet in length, on both sides, to confine the water, and iron bars were laid in the bottom of the slide, secured by countersunk-headed spikes. Suitable stop logs were made, and a cross sill, with upright guides, was laid on the solid rock, a little above entrance to slide, so that the water may be readily shut off independent of the bulkhead.

Two extra straps of $\frac{3}{4}$ -inch iron were placed on the special stop-log at the upper slide. New caps, braces and splice pieces were placed on the guide booms, and the top planking was renewed.

The floor on the lower slide was patched, and the iron straps were taken up, straightened and re-laid in place.

7-8 EDWARD VII., A. 1908

A supply of timber and iron was purchased for further repairs at this station.

South Chaudière or Ottawa.—In the bottom of the long slide, defective planks were repaired; the apron and bottom chains were adjusted; the scows and boats were repaired and painted, and the boat house was extended.

Before the river opened in the spring, ice was cut from around the guide booms and aprons, to protect them from damage.

Ice and snow were removed from the roofs of the buildings at the government reserve, on Victoria island, and these structures were maintained in a proper state of repair.

TRIBUTARIES OF THE OTTAWA RIVER.

Gatineau river.—At the main boom, near the mouth of the Gatineau river, the top planking of the various booms was repaired, and new caps, pickets and screw bolts were placed in position, while additional braces were set at the feeding gaps. Worn ends of boom sticks were sawn off, and new holes were bored, further back in the solid timber, for the connecting chains.

At the mouth of Pond creek, new gap sticks were provided and the covering of the booms was repaired.

The top of a pier, about 300 feet above the Canadian Pacific Railway bridge, was rebuilt. It is 23 feet square at water line, 19 feet square at top, and 13 feet high above low water marks.

Two sections of cribwork were built, on the south shore of the Gatineau, to protect the bank from erosion. One of these is situated immediately above the station house reserve, and is 250 feet long, 6 to 10 feet wide and 4 to 5 feet high. The other is about 200 feet above the latter section, being 70 feet long and about the same width and height as the former. The bank at the base of these two piers was excavated, to insure a good foundation, and rip-rap was placed on the tops of the cribs and carried up towards the bank, to prevent the shore from being displaced. A quantity of stone was also deposited along the south shore, above these two cribs, between high and low water marks, to preserve the bank, where the current strikes with much force in the springtime.

The roofs of the station house and storehouses were also repaired, and fenders were placed on the corners of the trip pier at upper end of the boom, opposite the reserve.

Madawaska river.—At Arnprior station the bottom of the slide was sheathed with 2-inch plank to prevent leakage when there was a scarcity of water, in the autumn months.

Coulange river.—At High Falls station, a row of timbers was placed on the crest of the controlling dam, to raise the water at the entrance to slide, to facilitate the passage of logs and timber through the slide.

Petawawa river.—At Second Chute station, the main governing dam, adjoining the west shore, had settled considerably, allowing too much water to escape. Two stringers of 12-inch by 12-inch timber, 35 feet long were placed at the rear of the dam, thus raising the crest to its proper elevation. The face of the dam was sheathed with 6-inch pine 16 feet long, for a width of 10 feet.

McDonald's Station.—In order to reduce the cost of maintenance in the future, and also to enable the lumbermen to pass their logs and timber with greater despatch at this station, it was deemed advisable to abandon the single stick slide, which is 510 feet long and 6½ feet average width, and to construct another short one of greater capacity, in mid-channel. This necessitated considerable blasting in the rapids, but the work done in this direction will be of a permanent character, and of service for all time.

SESSIONAL PAPER No. 19

A coffer-dam was built, the water was drawn off as low as possible by removing sheathing at various places on the dams, and an opening was cut in the main governing dam, about its centre. The two entrance piers, each 23 feet long, 12 feet wide and 8 feet high, support the stop-logs, and the space, 19 feet in width, between them, forms the slide, the bottom of which is covered with pine 8 inches in thickness. Immediately below the slide is an apron, 33 feet in length, composed of cribwork covered with 8-inch pine; and on both sides of it are piers of the same length, 10 feet wide and $4\frac{1}{2}$ feet high. The slide is fitted with the usual hoisting apparatus to regulate the flow of water through the slide.

Two glance piers were built to confine the water in the new channel. The one on the north side is 75 feet long, 12 feet wide at base, 8 feet at top, and 8 feet high; while that on the south side is 54 feet long, 8 feet wide at base, 6 feet at top, and 5 feet high.

A support pier 15 feet by 16 feet and 12 feet high, for the main boom was built above the slide entrance, and nine lengths of new boom were provided and secured at the upper end to a ring bolt set in the solid rock.

Owing to the inaccessibility of McDonald's station,—some thirty-two miles from any settlement or railway communication,—the work proved tedious, and much difficulty was experienced in procuring suitable men for this class of work, and also in taking in their supplies in the fall, as the portage road lies in a very mountainous tract of country.

During the summer, other repairs were also made at the different stations, by the deputy slide masters and their staffs, in the intervals which occurred between the passing of the several 'drives.'

In July last the water in the Ottawa and its tributaries commenced to fall rapidly, and towards the latter part of the season, at several of the stations, temporary means had to be resorted to in order to pass the logs through the slides, and some of the late 'drives' had to be abandoned altogether owing to the scarcity of water in the streams.

The following statement shows the number of pieces of the various description of timber that passed through these works and the revenue accrued thereon, for the period covered by this report:—

Square timber.. . . .	444 pieces.
Sawlogs.. . . .	4,185,118 "
Boom and dimension timber.. . . .	74,859 "
Cedars...	45,951 "
Railroad ties.. . . .	360,984 "
Fence posts.. . . .	99,552 "
Total.. . . .	4,766,908 "

Also 33,948,99/100 cords of pulpwood.

The revenue accrued on the above was, \$43,846.90.

7-8 EDWARD VII., A. 1908

STATEMENT showing Expenditure for Repairs and Reconstruction on Ottawa River Works, and Bridges at Ottawa, and Roadway and Bridge Approaches between Ottawa and Hull, for Fiscal Period ended March 31, 1907.

NAMES OF STATIONS.	Province.	Electoral District.	Expenditure. July 1, to Dec. 31, 1906.		Expenditure Jan. 1, to Mar. 31, 1907.		Expenditure July 1, 1906, to Mar. 31, 1907.	
			\$	cts.	\$	cts.	\$	cts.
<i>Repairs : Ottawa River Works—</i>								
North Chaudière Station	{ Que. Ont.	District of Wright	297	34	753	05	960	39
South " "	{	City of Ottawa	154	19	311	53	364	74
Gatineau River	{ Que. Ont.	District of Wright	2,652	13	1,027	15	3,679	28
Madawaska "	{	South Riding of County of Ren- frew	81	97			81	97
Conlonge "	{ Que. Ont.	County of Pontiac	7	55			7	55
Petawawa "	{	North Riding of Renfrew and County of Nipissing	3,862	61	435	58	4,298	19
Total for Ottawa River Works							8,066	99
<i>Repairs : Bridges at Ottawa and Roadway and Bridge Approaches between Ottawa and Hull—</i>								
Sappers' Bridge	Ont.	City of Ottawa	231	62	69	56	69	56
Dufferin "	Ont.	" "	603	36	213	52	231	62
Chaudière Slide Bridge	Ont.	City of Ottawa and district of Wright	82	05	431	60	876	88
Union Bridge	Ont. & Que.	District of Wright	28	75	36	50	516	65
Hull Slide Bridge	Que.	City of Ottawa and District of Wright	337	71	560	59	65	25
Roadway and Bridge Approaches between Otta- wa and Hull	Ont. & Que.				1,314	77	898	30
Total for Bridges and Approaches							2,658	26
Dufferin Bridge—Reconstruction	Ont.	City of Ottawa			1,390	50		
							4,897	41

OTTAWA, May 31, 1907.

JOSEPH KENT,
Accountant.

REPORT ON THE ST. MAURICE RIVER WORKS.

(By F. X. Lefebvre, Superintending Engineer.)

THREE RIVERS, June 1, 1907.

EUGÈNE D. LAFLEUR, Esq.,

Chief Engineer, Department of Public Works,
Ottawa.

SIR,—I have the honour to submit the following report on the works under my charge on the St. Maurice river for the fiscal year ended March 1, 1907.

After the drives were over last fall, the various structures on the St. Maurice river were examined, and a commencement made of the necessary repairs and improvements. The work was continued during the winter, in order that everything would be ready for the opening of navigation of 1907.

Pointe à Trudel.—On the 40th mile of the St. Maurice river 600 feet of spruce booms, 3 feet wide, covered with 3-inch pine deal, were constructed and the necessary chains were supplied. A pier, commenced a few years ago, was finished.

Pointe à Madeline.—The pier, commenced last year to replace the pier No. 2, was finished.

St. Jacques des Piles.—A new pier was built and the booms put in good condition.

Petites Piles.—3,500 lineal feet of spruce booms, 3 feet wide and covered with 3-inch pine deals, were constructed and the boom chains for them supplied. An old pier was repaired.

Rapide des Hetres.—A pier, commenced two years ago, was finished, and the foundation of a new one started. 600 lineal feet of spruce booms, 3 feet wide, covered with 3-inch pine deal, were constructed and the chains for them supplied.

Pointe à Bernard.—Pier No. 8, commenced last year, was completed.

Shawinigan Slide.—The slide was put in good order.

Shawinigan Lower Bay.—Two old piers were rebuilt, from low water line, and the booms repaired.

Les Gres Falls.—About 500 lineal feet of single round spruce booms and the necessary half-inch chains were supplied.

Mouth of the St. Maurice River.—Four old piers were rebuilt from low water line.

The drives of the fiscal year 1906-7 were very expensive on account of the water being very low in the summer of 1906.

7-8 EDWARD VII., A. 1908

REPORT ON THE SAGUENAY RIVER WORKS.

(By J. C. Taché, Superintending Engineer.)

Saguenay booms are on the Saguenay river, about six miles above Chicoutimi.

In 1904-5, five piers, 45 by 25 at bottom, with an ice-breaker facing the current, were built. These piers are of round logs open-face cribwork, sheathed with 6-inch spruce plank, with boiler-plate in front, and fenders of 10 by 10. Amount expended \$18,000.

During the year 1905-6, the following booms were built :—112 pieces of 80 feet long in three pieces of 12 by 12, eight pieces of 40 feet in three pieces, 12 by 12, being all built in British Columbia fir ; also ten booms of 20 and 30 feet in spruce 10 by 10.

Every boom is planked with 3-inch spruce deals; anchors and chains, B.B.B. proof, were also purchased. Amount expended \$20,653.42.

During the fiscal year 1906-7, a scow, 60 by 14, was built; three row-boats and six booms of 60 feet were also built in three pieces of spruce 10 by 10, planked with 3-inch spruce deals ; chains and anchors were purchased. The two buildings on the ground of the booms were repaired. Amount expended, \$4,514.99.

SESSIONAL PAPER No. 19

BRIDGES AND ROADS.

It may be stated that, in the older provinces of the Dominion, the federal government has confined itself, as a rule, to take under its exclusive control and make provisions towards the construction and maintenance of important interprovincial road bridges and bridges required across waterways.

In the sparsely settled districts of the Northwest Territories, the government of Canada has undertaken to provide for the erection and maintenance of ordinary road bridges over large streams; bridges that are urgently needed to afford uninterrupted communication through trails and highways of national importance, which neither the municipalities to be more immediately benefited by the structures, nor the territorial authorities most directly concerned could be expected to erect and maintain at their sole expense.

During the last fiscal year works have been executed on the following bridges:—

ONTARIO AND QUEBEC.

BRIDGES AT OTTAWA, AND ROADWAY AND BRIDGE APPROACHES BETWEEN OTTAWA AND HULL.

REPAIRS.

Sappers' Bridge.—The top covering of the sidewalk on the north side of this bridge was renewed, the material used being white pine 2 inches in thickness.

Dufferin Bridge.—Preparatory to starting the reconstruction of the roadway of Dufferin bridge, a false floor was built on top of the arch trusses of the eastern span, to guard against debris falling upon the railway tracks which pass underneath the bridge, while the work of removing the old floor was in progress.

Chaudière Slide Bridge.—A section of the sandstone pavement on the bridge over the south Chaudière slide and hydraulic channels, which had been laid on a 'fill' and had settled somewhat, had to be taken up and relaid to the proper grade. The discrepancy was filled with concrete and the blocks were laid in cement mortar and grouted on top. The gratings and waterways were cleared of rubbish, and the roadway was cleaned frequently.

Union Bridge.—The roadway of this bridge was cleaned, and the planking was renewed when worn out.

Hull Slide Bridge.—This bridge is paved with sandstone blocks, and the only expense incurred was in keeping the roadway clean.

Roadway and bridge approaches between Ottawa and Hull.—A 'cave in' occurred on the causeway leading to Hull, owing to the foundation having been washed out. The void was filled with clean stones and the pavement was relaid in sand.

This thoroughfare was cleaned often, and the wheel guards and railings were repaired as required.

During the winter, surplus ice and snow were removed from the roadbeds of the bridges, approaches and sidewalks; and 'pitch holes' in the roadways were filled, to improve their condition. Sand was spread on the sidewalks, when slippery, for the safety of pedestrians who had occasion to use them.

7-8 EDWARD VII., A. 1908

DUFFERIN BRIDGE, OTTAWA—RECONSTRUCTION.

The old floor of this bridge consisted of two layers of pine plank, resting on taper strips laid on top of the iron cross beams, to give the proper crowning to the roadway, and the upper portion was pine blocks, 6 inches high, set on end upon the floor. The blocks were separated by a strip of wood at the bottom, and the space at the top, between the blocks, was filled with a mixture of gravel, sand and tar.

This pavement was satisfactory for a number of years, but of late it had become in a very poor condition, owing to the very heavy traffic to which it was exposed; and moreover, there was a constant danger of the floor being set on fire, by sparks from steamboats and locomotives passing beneath the bridge, the woodwork being of a very inflammable nature, on account of the tar used to preserve the wood.

In the new construction, the danger of fire will be entirely removed, and the sandstone blocks may be expected to wear for an indefinite period.

After the old floor had been removed, steel I-beams 8 inches deep, 18 lbs. per foot, were placed transversely upon the tops of the arch trusses, midway between the old 6-inch beams which are set at 5-foot centres, thus making the new spacing $2\frac{1}{2}$ feet centre to centre.

Steel plates, $\frac{3}{8}$ -inch thick were rolled to the proper curve, and placed between the beams, the edges resting upon the lower flanges of the beams. These plates were bent so as to give a greater height at the centre of the roadway, forming the proper shape to the roadbed, without increasing the concrete to a greater depth at the centre than at the curb. The average depth of the concrete is six inches, and cinders were used instead of broken stone, to lessen the weight as much as possible.

The sandstone pavement was laid in a thin bed made of cement, sand and crushed cinders, and the joints between the blocks were filled with grouting.

The sidewalks are carried on 6-inch steel I-beams, 13 lbs. to the foot, and these support the curved plates. The walks are to be of granolithic, but as the weather was too cold last fall to do this part of the work, it was deferred until the present time.

Four cut stone caps were set on tops of the pedestals on the piers on both sides of the canal. These are designed to correspond with the other stonework, and add very materially to the general appearance of the bridge.

POND CREEK BRIDGE.

Pond creek is an outlet to Leamy's lake, and flows into the Ottawa river, half a mile above the mouth of the Gatineau river.

In 1894-5, a bridge, 235 feet long over all and 20 feet wide, was built over the creek, at a cost of \$3,726.26. The bridge was opened to traffic on May 1, 1895.

The flooring was repaired in 1897-8, at a cost of \$210.01. During the fiscal year 1901-2, minor repairs cost \$20. In 1902-3, the sum of \$1,130.52 was expended on repairs to the stone rip-rap and abutments, and for renewing the whole flooring and supports.

In October, 1906, when some heavy pieces of plant were being removed from the site of completed work at Gatineau Point to warehouse in Hull, some minor repairs had to be made to strengthen the bridge. Three braces were renewed at a cost of \$18, charged to Gatineau Point appropriation.

MANITOBA.

COLONIZATION ROAD, WHITEMOUTH, MANITOBA.

Road construction and improvement in the vicinity of Whitemouth, Manitoba, was carried on during the months of October and November, 1906.

Whitemouth Municipality, Ward 1.—On the west side of the Whitemouth river, from the S.W. $\frac{1}{4}$ section 18, township 11, range 12, following the trail along the river,

SESSIONAL PAPER No. 19

into section 32, township 10, range 12, at about the proposed station on the Transcontinental Railway.

The work consisted of the clearing and grubbing of a road 50 feet wide, for a distance of about $2\frac{1}{2}$ miles, also the grading and ditching of the greater portion of this distance. Culverts were put in to carry off the drainage water. This district is well settled and the road will afford easy communication to Whitemouth station, Canadian Pacific railway,—and also to the proposed station on the Transcontinental Railway.

Whitemouth Municipality, Ward 2.—On the east side of the Whitemouth river, on the township line running north and south between sections 29 and 30, township 11, range 12, and from the dividing line running east and west, going south for a distance of $2\frac{1}{2}$ miles. A roadway was cleared for a width of 20 feet and made suitable for traffic. This road permits of access for about twenty settlers to Whitemouth, over the bridge recently constructed over the Whitemouth river.

Whitemouth Municipality, Ward 4.—On the township line between townships 12 and 13, running north between sections 3 and 4, range 11, for a distance of about 4 miles.

The road was widened and cleared to a width of 50 feet, $1\frac{1}{4}$ miles of low land was graded and ditched. Sound box culverts were put in and two pipe culverts were constructed to pass two creeks. A road 20 feet wide was also cleared for a distance of $\frac{3}{4}$ mile, running east between sections 10 and 15, thence north for a distance of half a mile.

On this latter road ditching was done for a distance of about 3,500 feet. The road improvement made in Ward 4 will be a great convenience to a large German settlement and will permit of easy access to Whitemouth station on the Canadian Pacific Railway.

Work on the above colonization roads commenced on October 10, and was finished on November 19, 1906. The total amount of expenditure was \$2,491.

SHELLMOUTH HIGHWAY BRIDGE.

Proposed highway bridge over the Assiniboine river at Shellmouth, Manitoba, distant about eighteen miles from Russell, Man., a point on the Canadian Pacific Railway.

The contract for the substructure of this bridge was awarded on May 9, 1906, to the J. McDiarmid Co., of Winnipeg. The plans and specifications called for the construction of two piers and two abutments of concrete, including the excavation of the necessary material, grading of slopes and riprap protection of the piers and abutments.

The contractors delayed making a start, in order to take advantage of low stage of water which would facilitate the unwatering of the foundations. Actual work was commenced on August 15, 1906, and the substructure was completed on December 24, 1906. The concrete consisted of 1 part cement, 3 parts sand and 5 parts gravel. The cement used was Atlas Portland cement, and samples were taken from every tenth barrel and tests made at the cement laboratory, at St. Andrews, Manitoba.

The results of all cement tests were found entirely satisfactory. It was found necessary to increase the quantity of concrete shown on the contract plan, owing to the line of hard material for foundations being actually lower than shown on contract plan.

Piling was also found necessary under the west abutment.

Total expenditure in 1906-7, \$20,164.08.

7-8 EDWARD VII., A. 1908

NORTHWEST TERRITORIES.

BATTLEFORD BRIDGE (OVER BATTLE RIVER).

The work of repairing the Battleford bridge over the Battle river was proceeded with, and an expenditure of \$1,767.78 was incurred in doing so. The whole of the bridge, including approaches, required new flooring. The north approach, which was composed of a succession of trestle bents, was in a dilapidated, unsafe condition. Owing to the fact that the amount of money available was limited, it was thought advisable to confine the work of repairs to the reconstruction of the latter approach before undertaking the main bridge floor. The primary intention seemed to have been, when the main part of the bridge was rebuilt, to grade this approach to the north abutment, so we carried out that plan and graded it, using scrapers and wagons. The floor and stringers were removed and the material dumped into the trestle, mostly from up above, though some of the material placed in the bottom was put in with scrapers from below.

For want of the required funds to renew the main bridge flooring, instructions were given to keep the dangerous places patched up until such time as funds became available to renew it. Apart from the floor alluded to, this bridge is in a good condition and answers a good purpose, particularly since the Grand Trunk Pacific Railway has started building south of this place.

Signs were also printed and put up, requesting the public to drive over the bridge no faster than a walk.

EDMONTON BRIDGE.

During the last fiscal year the sum of \$2,946.28 was expended in reflooring this bridge; the old floor was removed and a new floor of the best British Columbia fir laid down.

The railway company has improved its tracks and approach to the bridge, while the municipalities of Edmonton and Strathcona have also commenced improving their respective portions of the approaches.

LANGEVIN BRIDGE (AT CALGARY).

During the fiscal year ended March 31, 1907, the sum of \$93.85 was expended for minor repairs to this bridge.

SESSIONAL PAPER No. 19

CEMENT LABORATORY.

E. D. LAFLEUR, Esq.,

Chief Engineer, Public Works Department.

SIR,—I have the honour to inclose herewith the annual report of the Cement Laboratory, Public Works Department, for the year ended March 31, 1907.

I have the honour to be, sir,

Yours obediently,

(Sgd.) GEO. E. PERLEY,

Engineer in charge.

Since June 30, 1906, all samples of cement and other building material submitted to this branch of the department have been thoroughly tested and reported upon.

Chief among these being: Three Rivers new wharf, Rivière Ouelle wharf, Highway bridge at Shellmouth, Man., wharf at Masson, retaining wall at Gatineau Point, Que., breakwater at Goderich, Ont., breakwater at Cow bay, Port Morien, and wharf at Wiarton, Ont.

In the past year there were eight hundred and thirty-five samples submitted for test purposes, which number shows an increase of 384 samples, or 85·1 per cent over the same period last year.

Of the 835 samples received, 815 were submitted by engineers of this department, nine by the Railways and Canals department, four by the Transcontinental Railway, two by the Chief Architect of this department, two by outside engineers, two by cement companies and 1 by a contractor.

Of the total number received:—

402 were International Portland cement.

336 were Star Portland cement.

45 were White Bros. Portland cement.

18 were Hercules Portland cement.

10 were Atlas (American) Portland cement.

6 were Belleville Portland cement.

6 were Unmarked Portland cement.

4 were Rampart Slag cement.

1 was Johnston Portland cement.

1 was Artillery Portland cement.

1 was Samson Portland cement.

1 was sample of concrete block.

5 were samples of sand and gravel.

Some time ago we started to install a complete electric storage battery plant, which plant, when completed, added to the rest of our electrical installation, will put our laboratory on an equal footing with any laboratory in America.

PART IV.—APPENDIX 'A.'

INTERIM REPORT

ON THE

GEORGIAN BAY SHIP CANAL SURVEY

BY

Arthur St. Laurent, C.E.

DEPARTMENT OF PUBLIC WORKS,
GEORGIAN BAY CANAL SURVEY,

OTTAWA, April 2, 1907.

SIR,—I have the honour to submit herewith my annual report on the progress of the work in regard to the Georgian Bay Ship Canal Survey for the nine months constituting the fiscal year 1906-7, ending March 31, 1907.

I have the honour to be, sir,

Your obedient servant,

A. ST. LAURENT,

Asst. Chief Engineer.

EUGÈNE D. LAFLEUR, Esq.,
Chief Engineer,
Public Works Department.

GEORGIAN BAY SHIP CANAL SURVEY.

During the nine months constituting the past fiscal year the work done in connection with the survey of the proposed deep waterway from the Georgian bay to tide-water, via the French and Ottawa rivers has been mostly office work as all the regular surveying parties operating on the different sections of the route were discharged in the previous year, their field duties having been completed.

As the office work progressed, however, in laying down the lines of the routes selected and in locating the different structures, it was necessary from time to time to detach a few men to get supplementary information at critical points, where the required data was not complete.

Several supplementary metre measurements of the flow of the Ottawa and French rivers were also made at different stages of the water in order to check previous measurements and to obtain a closer determination of the discharge curves at all stages. These measurements will be continued during the present season.

A boring party was continued at work, investigating the different lock and dam sites selected. This involved considerable trial work, as in many cases, the locations which seemed to be desirable for structures were found to be unfavourable on account of the poor character of the foundations and new sites had to be tested and the canal line changed accordingly.

The precise levelling which comprised a main line from Rouse's Point, N.Y., to North Bay and a net of check lines at both ends was satisfactorily completed. Results were computed and tabulated for future reference. In connection with this precise levelling, automatic recording gauge stations were maintained at Toronto on Lake Ontario, and at Collingwood and French river, on Lake Huron, to collect the data required for water level transfers, from similar United States' stations of known elevation above mean sea level, as determined by the United States geodetic and lake surveys. All the different sections of the survey have been connected with the precise level line and all elevations reduced to mean sea level.

Some preliminary explorations have also been made of the head-waters of the Ottawa river and of some of the large tributaries, with a view of a possible storage

7-8 EDWARD VII., A. 1908

system and control of flood waters, which would be desirable not only in regard to the canalization of the Ottawa river for large navigation, but also in connection with the promotion of the industries depending on the permanency of water-powers.

These investigations are being continued, but for the present it is not intended to do anything more than preliminary work, and ascertain whether or not the control of the flood waters is possible by means of a system of storage reservoirs, judiciously selected. The detailed surveys required in this connection would be quite extensive and the object of the present investigation will be attained by preliminary explorations. When the construction of the canal is decided, then detailed surveys for the selection of storage areas will be required.

A small party has to be sent out as soon as the season is favourable to establish the geographical position of a few points on the canal route, to place permanent stations where structures have been located and to connect some of the township lines with the canal survey lines.

In the office, a force of draughtsmen has been employed completing the field plans, and making copies rearranged in suitable sections.

On these plans are recorded, all elevations, contours, bench marks, the centre line of proposed routes, location of structures, such as locks, dams, regulating works, &c., ranges of lights, cross-sections of the canal, diagrams illustrating borings, water records, flooded areas, grade contours, mileage, &c., &c. A profile is also being prepared showing the bottom or grade line of the canal, the present water surface and the proposed raised water level, the location of locks and the profile and nature of the material to be excavated.

Land divisions on both sides of the route with lot numbers have been compiled, as far as available, and also plans of adjoining cities, towns and villages.

The working plans, which are made to a scale of 400 feet to the inch, are subdivided as follows:—

- No. 1.—Montreal to St. Anne.
- No. 1A.—Bout de L'Isle to Oka (alternative route).
- No. 2.—St. Anne to Hawkesbury.
- No. 3.—Hawkesbury to Ottawa.
- No. 4.—Ottawa to Chenaux Rapids.
- No. 5.—Chenaux Rapids to Pembroke.
- No. 5A.—Sable Rapids to Fort William (alternative route).
- No. 6.—Pembroke to Des Joachims.
- No. 7.—Des Joachims to Mattawa.
- No. 8.—Mattawa to head of French river on Lake Nipissing.
- No. 9.—Head of French river to Georgian bay.

These plans are well advanced though there is yet considerable work to do in relation to the project proper.

Enlarged plans of lock and dam sites are also being prepared and the following general maps have been commenced:—

1st. A reduction of the large detailed plans to a scale of 4,000 feet to the inch, showing the route on a continuous sheet with complete profile of the land and water surfaces and different reaches proposed.

Though it is impossible on this reduced plan to show all the topography and details, it will show the project in a general way and give a general idea of the works required and the location of the structures for the benefit of those who have not the time to study the more detailed plans.

2nd. A map to a scale of six miles to the inch plotted on a projection showing the general topography of the country through which the proposed waterway is located, together with a general profile of the centre line. This map will serve as an index map to the large scale plans.

SESSIONAL PAPER No. 19

3rd. A map showing the proposed Ottawa river waterway, together with the other principal water and railway transportation routes, from the head of the Great Lakes, via Montreal and New York to Liverpool, with several tables of comparative distances between main shipping points via different routes.

Apart from these, various plans in regard to the hydraulic investigations and other special matters, relating to the project, have been commenced.

The taking out of quantities required to determine a close approximate cost of the canal is much advanced, and is being done with the utmost care by trusted computers, whose work is carefully checked. In order that the estimated cost may be as reliable and as close as possible, all quantities referring to excavations, embankments, locks, dams and controlling works, flooded lands, &c., are itemized and worked out in detail, and very few uncertain items will be lumped. In applying prices for the estimated cost, in every case, local conditions are considered, and difficulties of construction to be met with are well matured.

A good deal of time and attention has been devoted to determine the type of dam and controlling works most suitable for the Ottawa river. As these works are necessarily of a very extensive character, the cost will vary considerably according to the types selected, and it is of the greatest importance that economical designs be adopted which will at the same time meet all requirements. Various types are being studied and a decision will be reached shortly in this matter as well as in many other questions which are now under investigation. It will then be possible to complete a reliable estimate of cost for the whole work, which covers 440 miles of canalization from the Georgian bay to Montreal.

As a complete report with plans and estimate of cost will be given in a few months, it is unnecessary in this general review of the work done during the past fiscal year, to go into details.

The proposed work is one of great magnitude and presents many engineering difficulties which require long and serious consideration. These difficulties can be overcome, but in deciding on the general lines of the project and the character of the structures and methods of construction, due consideration must be given to economy in design and great care exercised in not interfering too much with established industries or vested interests. At the same time, it is of the greatest importance that the canal be designed to meet the object in view, and assure safe and rapid passage to large boats.

It may be well here to state that the amount of engineering work involved is so large that the officers in charge of the survey have had to devote their whole time to the consideration of the technical part of the project only, and it will be possible for them to treat only lightly, in their report, on the commercial possibilities of the waterway.

An investigation in this connection by a mixed body of experienced engineers and business men would seem to be of the greatest importance.

The following are matters which it is respectfully suggested may come properly within the scope of a special commission regarding the industrial, commercial and national aspect of the proposed undertaking:—

1st.—A study of the transportation problem in relation to the proposed waterway; to what extent can it help developing the immense resources of the country?

2nd.—The advantages of a large waterway, from the lakes to the seaboard, open to all carriers, and its influence in regulating the rate of transport, especially upon cheaper commodities which the country produces.

3rd.—The competition of the waterway with the railways; probable beneficial effect on railways, by creating new industries, on account of the cheap transportation of low grade freight that cannot be handled profitably by rail, causing an expansion in industries, adding to the population, and the demand for higher class of freight seeking transportation by rail.

7-8 EDWARD VII., A. 1908

4th.—The volume of traffic available on account of the natural advantages of the waterway, being the shortest and only route offering lake navigation from the head of the Great Lakes to the seaboard.

5th.—Traffic of the Great Lakes; how it reaches the seaboard. The percentage of Canadian traffic handled through United States ports, and causes therefor.

6th.—Lake transportation; rates that obtain, lake and rail as against all rail, also a comparison with an all water route.

7th.—A comparison of the volume of traffic that may be handled by water, as against the rail routes, within the same period. Economic advantages of the waterway.

8th.—The position of the Northwest; Fort William being the objective point of all lines running through the wheat belt. How will the situation at the head of the lakes be met? Would not an all water route from Fort William to the seaboard be the natural complement of the Lake and rail routes?

9th.—The position of the existing and projected Gulf lines via Galveston; what their influence may be regarding diversion of traffic from the lakes and St. Lawrence route.

10th. The conditions that exist at the Canadian and United States ports on the Atlantic seaboard.

11th.—Interprovincial trade. The strengthening of trade between the provinces. The Northwest to supply Ontario, Quebec and the maritime provinces with wheat at the cheapest cost of transportation. Ontario and Quebec to supply in return, the product of their manufacturers, whilst it will perhaps be possible for Nova Scotia to supply coal to Ontario at a cheaper rate than it now costs to bring it from the United States, effecting a great saving to the country.

12th.—The iron industry and other mineral resources; the deep waterway as a factor in their development.

13th.—Pulp industry and the possibilities of development.

14th.—The tendency to manufacture at the base of supply; the possibilities along the route of the waterway, where raw material, which cannot be transported by rail at a low rate, is available. The easy development of large water-powers at dams, for manufacturing purposes.

15th.—Comparative cost of transportation per ton per mile, rail, lake and rail, and all water.

16th.—New territory opened in the Northwest, and the requirements to move the grain crop ten years hence to open market.

17th.—Storage at the head of the lakes and the seaboard; extent of terminals required.

18th.—Markets, general statistics; synopsis of history of deep canals; their trade development.

Before concluding, I wish to state that great credit is due to the District Engineers and all the staff under my direction for their devotion to duty and extreme good will, and I desire to express to them my most sincere thanks.

Respectfully submitted,

A. S. LAURENT,

Ass't Chief Engineer.

PART V

REPORT ON GOVERNMENT TELEGRAPH LINES

FOR THE

NINE MONTHS ENDED MARCH 31, 1907

DEPARTMENT OF PUBLIC WORKS,
OFFICE OF THE GENERAL SUPERINTENDENT,
OTTAWA, ONT., October 16, 1907.

F. GELINAS, Esq.,

Secretary, Department of Public Works.

SIR,—I beg to submit herewith my report on the Government Telegraph Service for the nine months ended March 31, 1907.

This report, as usual, is prefaced by a list to the present date of the land lines and cables in operation; with data of lengths, year of construction, number of offices at present established, and an estimate of the traffic handled in each instance.

The usual tabular statements giving list of offices, operating staff, &c., in the several districts are appended to the report; likewise the tariff sheets, showing the rates charged for messages on the several lines.

I have the honour to be, sir,

Your obedient servant,

D. H. KEELEY,

General Superintendent.

THE GOVERNMENT TELEGRAPH SERVICE.

DOMINION OF CANADA.

HEAD OFFICE: DEPARTMENT OF PUBLIC WORKS, OTTAWA.

(October 1, 1907.)

EXECUTIVE.

The Hon. William Pugsley, Minister of Public Works.

A. Gobeil, Esq., I.S.O., Deputy Minister of Public Works.

STAFF AT HEADQUARTERS.

D. H. Keeley, general superintendent.

M. W. Crean, technical assistant.

J. P. Demartigny, accountant, telegraph branch.

Miss A. Harcastle, stenographer.

GENERAL INSPECTORS.

A. B. McDonald, Meat Cove, Cape Breton, lines in Nova Scotia and New Brunswick.

J. S. Macdonald, Kamloops, B.C., lines in Northwest and south British Columbia.

J. E. Gobeil, lines in Yukon division.

SUPERINTENDENCIES.

Edwin Pope, Quebec, dist. supt., North Shore and G.N.W. traffic.

J. C. Taché, dist. supt., Chicoutimi district and north shore to Bersimis.

E. H. Tetu, Long Point of Mingan, dist. supt., North Shore, East Bersimis.

P. Pouliot, dist. supt., Quarantine line, &c., to Grosse Isle.

A. Malouin, dist. supt., West Point, Anticosti Island.

A. Le Bourdais, Grindstone, dist. supt., Magdalen Islands.

D. C. Dawson, St. John, N.B., dist. supt., Cape Breton system.

Mrs. C. C. Seely, Grand Manan, N.B., dist. supt., Bay of Fundy system.

J. McR. Selkirk, Leamington, Ont., dist. supt., Pelee Island system.

Robt. C. Macdonald, Qu'Appelle, dist. supt., Northwest Territories.

Wm. Henderson, Victoria, dist. supt., British Columbia, south.

C. S. Stevens, Kamloops, B.C., supt., Penticton line.

J. T. Phelan, Vancouver, B.C., acting supt., Yukon system.

H. Gilchen, Whitehorse, Y.T., acting dist. supt., Atlin-Boundary.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE.

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles.	Kt's.			
Newfoundland..	Port au Basque—Cape Ray.....	1883	14		14	2	
Nova Scotia....	North Sydney—Meat Cove (with loops).....	1880-02	167 $\frac{1}{4}$				
"	Across Bras d'Or channel.....	1880			168 $\frac{1}{4}$	18	
"	St. Ann's Harbour.....	1887					
"	Ingonish Harbour.....	1887					
"	Big Bras d'Or—Kempt Head.....	1904	20		20	3	
"	Meat Cove—St. Paul's Island.....	1890		20	23	1	
"	On St. Paul's Island.....	1890	3			9	
"	Mabou—Meat Cove.....	1887-00	109		109		
"	Barrington—Cape Sable.....	1883	16			Leased.	
"	Across Bear Point Channel.....	1883		1 $\frac{1}{4}$	17 $\frac{3}{4}$		9,776
"	Lt. House Channel.....	1883					
"	Mabou—Port Hawkesbury.....	1903	41 $\frac{3}{4}$		73 $\frac{3}{4}$		
"	Port Hawkesbury—St. Peters.....	1903	32				
"	St. Peters—Main-à-Dieu.....	1904	81 $\frac{1}{4}$			16	
"	Main-à-Dieu—Scatarie.....	1902		1 $\frac{3}{4}$	128 $\frac{3}{4}$		
"	On Scatarie Island.....	1904	7 $\frac{1}{4}$				
"	Gabarous—North Sydney.....	1904	35 $\frac{1}{2}$			13	
"	Little Bras d'Or—Kempt Head.....	1905	36		36		
"	North Sydney—Eskasoni.....	1905	37 $\frac{1}{2}$		37 $\frac{1}{2}$		
New Brunswick.	Chatham—Escuminac.....	1885	42		42	6	752
	<i>Bay of Fundy System :</i>						
"	Eastport—Campobello.....	1880		1 $\frac{3}{4}$			
"	On mainland Eastport.....	1880		$\frac{1}{2}$			
"	On Campobello Island.....	1880	7 $\frac{1}{2}$				
"	Campobello-Grand Manan.....	1880		7 $\frac{1}{4}$	44 $\frac{1}{2}$	10	2,468
"	On Grand Manan Island.....	1880	25 $\frac{1}{4}$				
"	Grand Manan—Cheney's Island.....	1890		$\frac{1}{2}$			
"	On Cheney's Island.....	1890		$\frac{3}{4}$			
"	Cheney's Island—Whitehead Island.....	1890					
"	Partridge Island—Fort Dufferin.....	1900		$\frac{1}{4}$	$\frac{3}{4}$		
Quebec.....	Bay St. Paul—Chicoutimi.....	1881-04	98		98	6	
"	St. Alexis—St. Catherines Bay.....	1904	78		78	5	
"	Murray Bay—St. Agnes.....	1904	14 $\frac{1}{2}$		14 $\frac{1}{2}$	2	
"	Bay St. Paul—Petite River.....	1904	13		13	1	
"	Chicoutimi—St. Charles.....	1903	37				
"	St. Anne—Lac Claire.....	1903	15		61	10	
"	St. Anne—St. Fulgence.....	1903	9				
"	St. Fulgence—Sacré Coeur.....	1905	57 $\frac{1}{2}$		57 $\frac{1}{2}$	4	
"	Murray Bay—St. Catherines Bay (2nd wire).....	1904	44 $\frac{1}{2}$		44 $\frac{1}{2}$		
"	St. Alexis—Chicoutimi (2nd wire).....	1905	14 $\frac{1}{2}$		14 $\frac{1}{2}$		
	<i>North Shore Line :</i>						
"	Murray Bay—Chateau Bay.....	1881-01	1,028 $\frac{1}{2}$				15,268
"	Across Saguenay River.....	1883		1 $\frac{1}{4}$			
"	Bersimis to Manicouagan.....	1883		12	1090	66	
"	Manicouagan to Godbout.....	1883		26			
"	Chateau Bay—Belle Isle.....	1901		22 $\frac{1}{2}$			
"	Bersimis—Godbout (alternative line).....	1904-05	80		80		
	<i>Quarantine System :</i>						
"	Quebec—L'Ange Gardien.....	1885	13				
"	L'Ange Gardien—Orleans Island.....	1885		$\frac{3}{4}$			
"	On Orleans Island.....	1885	29 $\frac{1}{4}$				
"	Orleans Island—Isle Réaux.....	1889		2	52 $\frac{1}{4}$	8	1,888
"	On Isle Réaux.....	1889	2 $\frac{1}{2}$				
"	Isle Réaux—Grosse Isle.....	1889		2			
"	On Grosse Isle (all told).....	1885-94	3 $\frac{1}{4}$				
"	St. Jean—St. Famille (loop).....	1904	5 $\frac{1}{2}$		5 $\frac{1}{2}$	1	
"	St. François—Baie St. Paul.....	1906		30			
"	Crane Island to Montmagny.....	1905		3 $\frac{1}{2}$			
Carried forward.....			2,222 $\frac{3}{4}$	135 $\frac{1}{4}$	2,324 $\frac{1}{4}$	181	30,152

7-8 EDWARD VII., A. 1903

GOVERNMENT TELEGRAPH SERVICE—*Concluded.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	*Total.		
	Brought forward.....		Miles.	Kt's.			
			2222 $\frac{3}{4}$	135 $\frac{1}{4}$	2324 $\frac{1}{2}$	181	39,152
	<i>Anticosti System:</i>						
Quebec.....	Gaspé—L'Anse à Fougère.....	1881	28	.....	316 $\frac{1}{2}$	9	788
"	L'Anse à Fougère—Anticosti.....	1881	.....	44 $\frac{1}{2}$			
"	On Anticosti Island	1881-90	223 $\frac{1}{4}$	.....		
"	Anticosti—Long Point, Mingan	1890	.....	21			
	<i>Magdalen Island System:</i>						
"	Meat Cove, C.B.—Magdalen Islands.....	1880	.....	55	251	13	2,201
"	On Magdalen Islands	1881-02	83 $\frac{1}{2}$	11 $\frac{1}{2}$			
"	Grosse Isle—Bryon Island.....	1902	.....	11			
"	Bryon Island—Anticosti.....	1902	.....	93			
"	On Bryon Island (Loop).....	1903	1	.....		
"	House Harbour—Pointe Basse (Loop).....	1902	4	.....		
"	Pointe Basse—South Beach (Loop).....	1905	3	.....		
	<i>Pelee Island System:</i>						
Ontario.....	Leamington—Point Pelee	1889	12	.....	42 $\frac{1}{2}$	10	1,217
"	Leamington Dock—Pelee Island.....	1901	.....	17			
"	On Pelee Island.....	1889-00	13 $\frac{1}{2}$	.....		
North-west.	Qu'Appelle—Edmonton	1883	625	.....	625	16	17,782
"	Moosejaw—Wood Mountain	1885	90 $\frac{1}{2}$	.....	90 $\frac{1}{2}$	2	
"	Wood Mountain—Willow Bunch.....	1904	38	.....	38	5	
"	Edmonton—Indian Ag. & Stoney Plain.....	1904	24	.....	24		
"	Edmonton—Athabaska Ldg.....	1904	98	.....	98		
"	Duck Lake—Batoche.....	1902	9	.....	12 $\frac{1}{2}$	3	
"	Duck Lake—Indian Agency.....	1902	3 $\frac{1}{2}$	.....		
"	Edmonton—St. Albert.....	1887	9	.....	36	3	
"	St. Albert—Qui Barre and Alexandria.....	1902	27	.....		
"	Lloydminster (loop) near Pitt.....	1904	22	.....	22	1	
"	Victoria—Andrew and Whitford.....	1904-05	11 $\frac{1}{2}$	.....	11 $\frac{1}{2}$	2	
"	Qu'Appelle—Lipton (Loop).....	1906	11	.....	11	1	
British Columbia	Victoria—Cape Beale	1891	118	.....	118	6	1,602
"	Nanaimo—Comox.....	1893	81	.....	81	10	9,438
"	Parksville—Alberni.....	1895	29 $\frac{1}{2}$	.....	86 $\frac{1}{2}$	2	
"	Alberni—Cape Beale.....	1899	57	.....	86 $\frac{1}{2}$	9	
"	Alberni—Clayoquot.....	1902	96 $\frac{3}{4}$	.....	96 $\frac{3}{4}$	32	913
"	Kamloops—Lower Nicola.....	1899	67	.....	67		1,050
"	Lower Nicola—Penticton.....	1905	168	.....	168		4,500
"	Vernon—Kilowna.....	1905	35	.....	35		750
"	Kilowna—Penticton.....	1906	45	1 $\frac{1}{2}$	46 $\frac{1}{2}$		1,566
"	Golden—Windermere.....	1901-02	92	.....	92	4	
"	Duncan Sta.—Salt Spring Isl. & Extens.	1902-04	24	.....	24 $\frac{3}{4}$	5	372
Yukon.	Ashcroft—Dawson and Boundary.....	1899-01	1845	.....	2,252 $\frac{1}{2}$	68	31,856
"	Hazelton—Port Simpson and Aberdeen.....	1901-02	202 $\frac{1}{2}$	.....		
"	Tagish—Cariboo Crossing.....	1901	18	.....		
"	150 mile Sta.—Quesnelle Forks.....	1902	64	.....		
"	Ashcroft—Lillooet.....	1896	62	.....		
"	Quesnelle—Barkerville.....	1887	61	.....		
"	Ashcroft—Quesnelle (local wire).....	1878-87	215	.....	215		
	Total.....		6829 $\frac{1}{4}$	380 $\frac{1}{4}$	7,175	382	104,187

* For convenience in totalling, the knots of cable are regarded as statute miles.

SESSIONAL PAPER No. 19

REPORT ON THE GOVERNMENT TELEGRAPH SERVICE, 1906-7.

EXPLANATORY NOTES.

The tabular statement prefacing this report shows the total mileage, &c., of the telegraph lines operated by the government. Lines that have been subsidized or constructed and transferred by the government for operation by private companies are not included in this list.

The matter in the following pages comprises a statement of specific actions taken in the course of the year; and as a new departure, the particulars are given in separate reports hereto subjoined, that have been obtained, where practicable, from the district superintendents, and will be found indicated under the several division headings. In any case where no particular reference is made to a line found in the above-mentioned list, the understanding intended to be conveyed is that the line has been satisfactorily operated throughout the year, without any change of conditions since last made mention of in the annual reports.

NEWFOUNDLAND.

The line from Port au Basque to Cape Ray continued to be operated as heretofore, under an arrangement with the Anglo-American Telegraph Company.

MARITIME PROVINCES.

Cape Breton.—Construction of new lines.—The projected extensions mentioned in last year's report were carried to completion early in 1906. The one from Little Bras d'Or to Kempt Head, on the south side of Boularderie comprises 31 miles of pole line and 36 miles of wire, including loops for office connections; and the one to Eskasoni comprises 31½ miles of pole line and 37½ miles of wire, including loops for office connections and a stretch of 6 miles along the previously existing line between Balls Creek and North Sydney. The following offices were opened for business at: Little Bras d'Or, East Bay, Castle Bay, North Side East Bay, Alder Point, Hillside, South Side Boularderie, Point Clear, Groves Point, Boularderie West, Little Bras d'Or Bridge and Eskasoni.

To relieve the pressure on the Meat Cove wire, a new wire was strung from North Sydney to Big Bras d'Or, with a loop to Alder Point and crossing Little Bras d'Or with 400 feet of cable; an arrangement which gives entire satisfaction.

OFFICES GENERALLY.

An office was opened at Laframboise Intervale on September 13, 1906, with John D. Morrison as agent, on commission of 25 per cent government line tolls, guaranteed at the rate of \$50 per annum. Also one at Breton Cove, in charge of D. B. McLeod, on commission of 25 per cent.

The office at Strathlorne was closed on January 5, the business being insufficient to justify its maintenance.

Repoling and repairs to line.—The repoling of the line between Mabou and Cheticamp was undertaken by General Repairer McLennan, and completed before winter set in. 180 poles were placed between Mabou and Strathlorne, 300 between Strathlorne and S.W. Margaree, and 180 between Grand Etang and the Barren.

The line between Gabarous and North Sydney was overhauled and put in good repair.

7-8 EDWARD VII., A. 1908

Maintenance and operation of the several lines in Cape Breton will be found dealt with in the report (1) from the superintendent, Mr. D. C. Dawson, hereto annexed.

Scatari Island Cable.—Interrupted since November 3, 1904, as mentioned in last year's report. Recently restored in course of repair ship's operations. See cable ship *Tyrian*.

St. Paul's Island Cable.—Interrupted since November 14, 1904, as mentioned in last year's report. Recently restored in course of repair ship's operations. See cable ship *Tyrian*.

Magdalen Islands.—Special winter tariff.—With a view to rendering the existing facilities for communication with the mainland as useful as possible during the season of suspension of the mail service, a special rate of $\frac{1}{2}$ cent per word was established the winter before last for messages between the Magdalen Islands and Meat Cove, where connection is made with mainland system of telegraphs at the regular tariff, or the mail is reached for the interchange of letters. It is proposed to continue the same arrangement yearly in the interests of this isolated community.

Meat Cove-Magdalen Islands Cable.—This important connection became interrupted on June 1, 1906; the ss. *Tyrian* was shortly afterwards in readiness for the season's operations, and her attention was, as early as practicable, directed to this section. The repair was made and communication restored on July 26.

Bryon Island Cables.—As mentioned in last year's report, the stretch between Bryon Island and Anticosti became interrupted on December 11, 1904, and the one between Bryon Island and the Magdalen Islands on February 11, 1905. In both cases so far as could be locally determined, the trouble was in deep water, necessitating the services of the ss. *Tyrian*, but it was not found possible to put the ship at work there before the season was too far advanced to make an attempt at repair practicable. Meanwhile the expediency of discontinuing the use of the long Bryon-Anticosti section was decided upon in the department; and instead of repairing that cable a considerable portion of it was picked up from the Bryon Island end for use elsewhere, and the remainder, extending to Heath Point, Anticosti, left undisturbed until there may be occasion for its recovery. The other section, Bryon-Grosse Isle, Magdalens, was repaired by the *Tyrian* on July 28, 1906.

Anticosti Island.—See report (2) from District Superintendent A. Malouin, hereto annexed.

Anticosti Cables.—The South West Point-Gaspé cable, interrupted since November 20, 1905, was picked up and repaired on August 8, 1906, and the Long Point-Anticosti cable, which developed a leak on August 16, was picked up on October 14, 1906, and has since worked satisfactorily.

BAY OF FUNDY.

Grand Manan-Campobello Cable.—This cable which was interrupted on February 21, was repaired by the cable ship staff on May 25, 1907.

Local Telephone Company.—For the accommodation of the local telephone company operating on Grand Manan, a permit has been given by the department for the stringing of their wire, subject to the usual conditions, on the poles of the telegraph line throughout the length of the island.

NORTH SHORE AND CHICOUTIMI SYSTEM.

Under the arrangements put in operation, as stated in last year's report, the several lines comprising this system have been rendering good service. Some further extensions have been made in the Chicoutimi district which will be found fully dealt with

SESSIONAL PAPER No. 19

in the accompanying report (4) from the district superintendent, Mr. J. C. Taché, resident engineer at Chicoutimi.

Joint tariff with G. N. W. Tel. Co.—Since September 1, 1905, the charge for messages between Quebec and all points on the government lines west of, but not including Bersimis, has been 25 cents, with 2 cents each for additional words over ten, evenly divided between the company and the government. The earlier rates applied to Bersimis, and all offices further down on the north shore continue unchanged, viz.: the local government line rate plus 15 and 1 for business exchanged with Quebec; or plus the full regular rate of the G. N. W. Tel. Co. beyond Quebec.

Belle Isle Cable.—This cable, owing to the establishment of regular wireless telegraph service by the Marconi Company for the Department of Marine and Fisheries, has not yet been taken in hand for repair.

Changes and Appointments.—L. N. Caron, inspector from Point des Monts to Thunder River, died on October 29, 1906, and was replaced by Frs. Gallienne, of Seven Islands, at a salary of \$45 per month.

Mrs. A. Lausier, for some years agent at Bersimis, died on February 8, and was succeeded by Mr. A. Maloney, of Long Point, the latter being replaced at Long Point by Mr. A. Fournier.

QUARANTINE SYSTEM.

The Marconi stations established on the Citadel and at Grosse Isle as an alternative in case of interruption to our cable system, are still in operation, and continue to give satisfactory service.

On September 15, 1906, a cable was laid from St. François, Island of Orleans, to Baie St. Paul (distance 30 knots), with the view of a through connection to Quebec without having to lease a wire.

Repairs to Crane Island cable were completed September 29, 1906.

A detailed report (5) from Mr. P. Pouliot, district superintendent, is hereto appended.

ONTARIO.

Pelee Island Line.—The Pelee Island cable became interrupted on September 29, and was restored on October 15, 1906. It was again interrupted on June 3, and put in repair on June 20, 1907. A separate report (6) covering the particulars of operations, &c., from the district superintendent, Mr. J. McR. Selkirk, will be found hereto annexed.

NORTHWEST LINES.—BRITISH COLUMBIA AND YUKON.

The separate reports (7-11) presented by the respective district superintendents, included in the appendices hereto, will be found to convey more fully than the forms of synopsis heretofore observed, an account of what has been done in those several divisions of the service in the course of the past year. The whole affords a very satisfactory showing.

TELEGRAPH SERVICE GENERALLY.

Cable Ship 'Tyrian.'—The repair ship was got into service early in the season, with Captain T. O'Leary in command, and the staff officers and crew unchanged from last year as detailed in the last annual report. The ship had a busy and successful season, as is shown by the statement submitted elsewhere. Mr. A. B. McDonald, now general inspector of the lines in the maritime provinces, with headquarters at North Sydney, C.B. N.S., ably acted in the capacity of electrician in connection with the ship's operations throughout the year.

7-8 EDWARD VII., A. 1908

Headquarters Staff.—The position of technical assistant rendered vacant by the death of Mr. J. A. Parr was filled in November, 1906, by the appointment of Mr. M. W. Crean, late inspector of North Shore lines.

Telegraph Systems of the Dominion.—As a matter of general interest, pursuant to the statement submitted last year, the latest figures to hand showing the extent of telegraph lines in operation in the Dominion are given hereunder:—

Canada.	LENGTH OF LINES IN MILES.			LENGTHS OF CONDUCTORS IN MILES.			Number of offices.
	Aerial.	Under-ground.	Total.	Aerial.	Under-ground.	Total.	
Great North Western Telegraph Co.	11,775	.....	11,775	48,652	.....	48,652	1,360
Canadian Pacific Telegraph....	10,292	2	10,294	50,952	57	51,009	1,150
Western Union Telegraph Co....	2,610	28	2,638	9,805	44	9,849	219
Government Telegraph Service..	6,829	.....	6,829	6,829	.....	6,829	382

* REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the government lines in the several districts hereinbefore mentioned are given in the following table:—

1906-07.	Expenditure.	Revenue.	Remarks.
	\$ cts.	\$ cts.	
Lower St. Lawrence and Maritime Provinces :—			
Anticosti lines	4,073 74	827 97	
Bay of Fundy	1,569 29	695 16	
Gaspé Local .....	.....	26 36	
Escuminac	216 00	172 97	
Magdalen Islands	1,975 19	1,062 98	
Father Point Agency	500 00		
Cape Breton lines	13,576 34	2,066 95	
North Shore (E.B.)	17,072 45	2,464 73	
" (W.B.)	12,466 00	1,877 35	
Quarantine system	2,948 76	391 14	
Cable ship <i>Tyrian</i> :—			
Maintenance and repairs	68,310 81		
Subsidies, stationery, line and office material and contingencies	8,528 07		
Gulf general	8,034 28		
Ontario :—			
Peleé Island line	760 96	190 85	
North-west Territories lines	28,632 05	5,547 52	
British Columbia :—			
Alberni-Cape Beale	382 45	52 69	
Alberni-Clayoquot	3,258 45	516 48	
Golden-Windermere	2,188 28	656 19	
Kamloops-Nicola-Penticton	9,642 35	6,292 95	
Vernon-Kelowna	3,756 87	2,534 02	
Nanaimo-Comox	249 90	185 03	
Vancouver-Salt Spring	5,359 75	520 49	
Victoria-Cape Beale	1,293 41		
B. C. service generally			
Yukon :—			
Ashcroft-Dawson	169,763 34	64,979 87	
Telegraph service generally	1,668 46		
Total	366,227 20	91,061 70	

Signal Service messages, Meteorological Service messages and reports, and Fisheries bulletins are handled free of tolls.

SESSIONAL PAPER No. 19

DEPARTMENTAL TELEPHONE SERVICE.

At the end of March, 1907, the telephone connections with the central offices of the Bell Telephone Company at Ottawa, listed as chargeable to the special appropriation, numbered 303, the annual charge for which amounts to \$9,513.31. The connections are distributed amongst the several departments as hereunder:—

Department.	Offices.	Residences.	Annual charge.
			\$ cts.
Agriculture	7	4	326 25
Auditor General.....	6	1	202 50
Census Branch	1	1	63 80
Customs	5	2	207 53
Dominion Police.....	8	3	324 81
Exchequer Court	1	2	77 43
Finance.....	5	4	277 56
Governor General (including private system).....	7	2	324 63
House of Commons.....	15	3	583 11
Indian Affairs.....	4	1	142 56
Inland Revenue.....	4	4	292 50
Interior (including line to Observatory)	35	4	1,203 75
Geological Survey.....	2	2	108 81
Justice.....	7	10	493 56
Labour Department.....	1	2	90 00
Mounted Police.....	3	1	108 81
Marine and Fisheries.....	12	6	548 28
Militia and Defence.....	13	11	701 01
Parliamentary Library.....	1	2	90 00
Privy Council.....	3	5	247 50
Post Office Department.....	8	5	386 10
Public Works Department (including Ottawa River Works).....	36	15	1,588 50
Printing and Stationery	4	2	195 03
Railways and Canals.	7	5	338 31
Secretary of State.....	3	4	204 75
Senate.....	6	1	195 00
Trade and Commerce.....	3	4	191 25
	197	106	9,513 31

APPENDED TABLES.

The usual tabular statements of the lines and offices, staff, &c., of the telegraph service, following hereupon, will be found to contain whatever additions or changes have been made up to March 31, 1907.

D. H. KEELEY,

General Superintendent.

OTTAWA, October 16, 1907.

DOMINION TELEGRAPH SERVICE.

NEWFOUNDLAND TELEGRAPH SERVICE.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Memo.
		Miles.	\$ cts.	
1	Port au Basque.....	0	50 00 or commission.	N.B.—The commission is 25 per cent upon all business to and from the office; said commission guaranteed not to be less than at the rate of \$50 per annum.
2	Cape Ray Lighthouse	14	50 00 "	
	Totals	14	100 00	

N.B.—The above short line is constructed in connection with the Signal Service, and connects at Port au Basque with the land line system of the Anglo-American Telegraph Company.

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.

ANTICOSTI TELEGRAPH SYSTEM.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
1	Fox Bay.....	0	Geo. Cabot.....	300 00	May 13, 1900.....	Increased from \$200 since December, 1902.
2	Heath Point.....	23	A. Tremblay.....	50 00 or commission.	Aug. 1, 1900.....	For local agency.
3	South Point Lighthouse.....	32½	E. Leprise.....	200 00 per annum.	Nov. 1, 1902.....	For cable repeating station.
4	Shadlop Creek.....	17½	B. Bradley.....	50 00 or commission.	July 1, 1903.....	
5	Salt Lake.....	52½	Jos. Bourget, opr.....	240 00 per annum.	" 7, 1881.....	
6	South-west Pt. Lighthouse, Jupiter River.....	15	Mrs. Bourget, opr.....	360 00 " "	" 17, 1906.....	Plus \$1 per day when on duty as general repairer.
7	Other River.....	7	A. Z. Lennieux.....	420 00 " "	" 1, 1901.....	Increase from \$300 since May, 1903.
8	Besque River.....	17½	" " " " " "	50 00 or commission.	" " " " " "	
9	Cape Eagle (Ellis Bay).....	10	Jas. Duguay.....	50 00 " "	June 20, 1906.....	
10	West Point Lighthouse.....	9	A. Malouin, disc. supt. opr.....	344 00 per annum.	Aug. 1, 1900.....	
11	English Bay.....	3	Liz. " substitute, opr.....	480 00 " "	" 10, 1881.....	Temporary.
12	Mediclastic Bay (cable land- ing).....	14½	F. Cabot.....	50 00 " "	July 1, 1882.....	
	Totals.....	233½		3,044 00		

South-west Point connects with l'Anse à Fongère, Gaspié, by cable 44½ knots; and from Mediclastic Bay connection is made with Long Point of Mingan by cable 21 knots

0	L'Anse à Fongère.....		Thos. Dupuis.....	17 00		Special allowance for the cable terminus. A testing station only.
1	Gaspié Basin.....	28	J. J. Annett.....	540 00	Oct. 16, 1881.....	Transfer office. Connection with G. N. W. telegraph system. The salary was \$420 per year previous to December 1, 1903.
		28		557 00		

* This payment was made to Mr. N. Bernier prior to October, 1903.

SESSIONAL PAPER No. 19

MAGDALEN ISLANDS SYSTEM.
MAGDALEN ISLANDS SECTION.

1	Ankerst.	0	Miss J. Shea.	50 00 or commission.	Oct.	1, 1882	The commission is 25 per cent on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of \$50 per annum.
2	Amherst Lighthouse	9	Wm. Cormier.	50 00	June 11, 1881.	Plus \$1 per day when absent on duty.	
3	Etang du Nord village.	15	I. G. Binet, gen. repairer.	400 00	Dec. 1, 1900.		
4	Etang du Nord Lighthouse.	1	Mrs. A. Binet.	50 00	" 1, 1881.	Two wire loop line.	
5	Grindstone Island.	5	N. Arseneault.	50 00	Sept. 1, 1891.		
			W. Leslie.	Commission 25 p.c.	May 29, 1897.		
6	Grindstone West.		A. LeBourdais, dis. supt.	725 00	Aug. 17, 1880.	Plus \$1 per day when absent on duty. The salary was \$600 per annum prior to May 1, 1904.	
			Mrs. LeBourdais, oper.	50 00	Sept. 15, 1893.	Temporary assistant.	
			J. J. LeBourdais.	37 00 per month.	May 25, 1904.		
7	House Harbour ($\frac{1}{3}$ knot cable)*.	3	Camille Delaney.	50 00 or commission.	June 1, 1903.		
8	Wolfe Island.	28 $\frac{1}{2}$	N. Clark.	360 00 or commission.	June 1, 1888.	For repeating station. Prior to Dec. 1, '92, the allowance was \$200 and commission for local agency.	
9	Grosse Isle.	11	J. Quinn.	50 00	Dec. 1, 1902.		
10	Grand Entry.	11	Mrs. F. Atkins.	50 00	Feb. 18, 1882.		
11	*Point Basse—2 Wire loop from House Harbour.	4	H. Arseneau.	50 00	Aug. 1, 1902.		
12	South Beach—2 Wire loop.	3	E. Chevrier.	50 00	July 1, 1905.		
13	Bryon Island.	1	W. Dingwell.	150 00	Jan. 1, 1903.	Two-wire loop line from terminal hut for Grosse Isle and Anticosti cables.	
		91 $\frac{1}{2}$		2,130 00			

Grosse Isle connects at Old Harry with Meat Cove, C. R., by cable 55 knots; and connects with Bryon Island by cable 11 knots; thence to Heath Point Anticosti 93 knots.

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.

CAPE BRETON SECTION.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
1	Meat Cove.	0	Miss E. Dawson.....	50 00 or commission	June 18, 1907.	Closed August 31, 1906, and reopened June 18, 1907.
2	Bay St. Lawrence including connections to cables.	14	V. Theriault	720 00	May 1, 1902	Cable station at Bay St. Lawrence in place of Meat Cove since September 1, 1906. The commission is 25 p.c. on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of \$50 per annum.
3	Aspy Bay	5	L. Y. Nichols.	50 00 or commission	July 1, 1894.	The loop line formerly running to White Point has been withdrawn.
4	Dingwell (loop line)....	33 24	Murdoch McLeod.....	50 00 "	Aug. 31, 1898.	
5	Cape North (Inland).....	3	N. A. McDonald.....	50 00 "	May 13, 1904.	
6	Nell's Harbour (half-way house loop line).....	11 13	M. McLeod.....	50 00 "	April 1, 1887.	
7	Ingonish North Bay.....	9	Mrs. S. S. Burke.....	50 00 "	June 1, 1884.	Former Agent J. M. Burke deceased.
8	South Ingonish	10½	Geo. Brewer	50 00 "	May 7, 1899	
9	Ingonish Ferry	2	Anna McLeod	50 00 "	Oct. 1, 1903	
10	French River ¼ knot cable.	21	John McLeod	50 00 "	April 1, 1899	
11	Indian Brook	5	Annie McDonald	50 00 "	Aug. 1, 1901.	
12	Murray (loop line).	14 10	F. B. Matheson.	50 00 "	Jan. 29, 1902.	
13	Englishtown ¼ knot cable..	7	W. Bingham.....	120 00 and commiss., and 25 p.c.R.	July 19, 1882.	Switching point for Baddeck line.
14	South Gut, St. Ann's (on loop).....	5	Rachael Morrison.....	50 00 or commission	Sept. 1, 1904.	Closed December 31, 1899.
15	Baddeck (on loop).....	13	L. M. Anderson.....	100 00 and 25 p.c.R. & Cks	June 17, 1904.	Salary—\$120 per year previous to this appointment. Former Agent Mr. A. Anderson. This loop to Baddeck starts from and returns to En- glishtown.
16	Englishtown (back on loop)	18			July 7, 1904.	Increase from \$50 to \$100 since November 1, 1904.
17	Kelley's Cove, N. Camp- bellton	6	J. S. Burchell.....	50 00 or commission	Jan. 1, 1889	The commission is 50 p.c. on local business and 25 p.c. on through messages; and covers supervision of line and office accommodation at North Sydney.
18	Big Bras d'Or ¼ knot cable, North Sydney	2½ 12½	Mrs. E. Livingston W. U. Tel. Co.	100 00 Commis'n only		

SESSIONAL PAPER No. 19

<i>Repairers Sections.</i>		MABOU-CHETICAMP AND MEAT COVE, C. B., TELEGRAPH SYSTEM.			
Meat Cove—Sugar Loaf.	80 00	M. McAskill.	April 1, 1898.	Increase from \$80 since June 1, 1903. Payment includes horsehire.	
Sugar Loaf—Ingush.	100 00	Charles Smith.	" 1, 1898.		
Ingush—Englishtown.	100 00	R. A. McDonald.	" " 1, 1904.		
Englishtown—Baddeck.	100 00	D. McAnlay.	Nov. 1, 1903.		
" North Sydney.	100 00	Dan Campbell.	July 14, 1903.		
Murray—Indian Brook.	25 00	John Smith.	June 17, 1902.		
Ingush.	420 00	S. S. Burke, gen. repr.	April 1, 1904.		
176½	\$2,575 00				
<i>Repairers Sections.</i>		MABOU-CHETICAMP AND MEAT COVE, C. B., TELEGRAPH SYSTEM.			
1 Mabou.	0	Mrs. M. McDonald.	April 1, 1887.	Office closed January 13, 1907. Acting manager since March 18, 1907. The commission is 25 p.c. of the Government line tolls, and is guaranteed to amount to not less than \$50 per annum. Where 50 p.c. commission is paid there is no guarantee as to amount. Closed March 31, 1905.	
2 Strathlorne.	9	Rosella McLean.	Feb. 1, 1898.		
3 Inverness Town (Broad Cove).	11	Helen McLean.	Oct. 20, 1896.		
4 South-west Margaree.	5	H. K. McLean.	Feb. 1, 1898.		
5 Margaree Harbour.	12		Sept. 13, 1902.		
6 North-east Margaree (loop line wire).	10	Mrs. J. D. Ross.	Aug. 3, 1905.		
7 Grand Etang.	8	G. Doucet.	Oct. 15, 1903.		
8 Cheticamp.	8	Chas. J. Au Coin.	Jan. 1, 1904.		
9 Pleasant Bay.	27	M. J. McIntosh.	" 1, 1887.		
10 Cape St. Lawrence.	15	C. Janisson.			
Meat Cove.	4	(See Meat Cove Line.)			
		(D. C. Dawson, D. Supr.)			
<i>Repairers Sections.</i>					
Mabou—Strathlorne.		A. G. McDougall.	Nov. 3, 1902.		
Strathlorne—S. W. Margaree.		J. D. McFarlane.	June 4, 1902.		
S. W. Margaree—Margaree Harbour.		Alex. McFarlane, sr.	" 4, 1902.		
Margaree Harbour—Grand Etang.		H. K. McLean.	" 1, 1905.		
Cheticamp.		Joseph L. Chaisson.	" 1, 1905.		
Cheticamp—Barren.		J. G. Chaisson.	July 1, 1905.		
Barren—Pleasant Bay.		J. A. McLean.	" 20, 1903.		
Pleasant Bay—Polis Cove.		K. Fraser.	" 20, 1903.		
Polis Cove—Halfway.			" 20, 1903.		
Shanty Cove.		E. Fraser.	" 20, 1903.		
Halfway Shanty—Meat Cove.		R. Fraser.	" 20, 1903.	Salary covers horse-hire, &c.	
General Inman.		V. A. McEldan.	Mar. 1, 1905.		
Totals.	109			3,415 50	

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE--Continued.
NORTH SYDNEY, BOULARDERIE AND ESKASONI SECTION.

No.	Stations.	Inter- mediate Distance.	Agents and operators.	Salaries per annum.	Date of Appointment.	Memo.	
<i>Boularderie.</i>							
<i>North Sydney.</i>							
1	Little Bras d'Or (M.C. poles)	See Meat	Miss D. Edna Grantamyer	\$50 00 or commission	Dec.	The commission is 25 p. c. of the Govt. line tolls in each instance and is guaranteed to amount to not less than \$50 per annum.	
2	Alder Point (loop line)	Cove Line	Mrs. John Arsenault	"	"		
3	Groves Point (1 mi. M. C. poles)	5		"	"		
4	Hillside	3	Mrs. Mary Dunlop	"	"		
5	Boularderie West.	4	Mrs. Christina McKenzie	"	Feb.		
6	S. S. Boularderie	4	John McIntyre	"	Jan.		
7	Point Clear	3	Donald McRae	"	"		
8	Upper Kompt Head.	4	Mrs. M. McLeod	"	Dec.		
9	Ross Ferry	7	Mrs. Murdoch McKenzie	"	Oct.		
10	Boularderie Centre.	6½	Robert Campbell	"	6, 1904		
	Big Bras d'Or.	6	Mrs. J. E. McKenzie	"	"		
		7½	See Meat Cove Line.	"	6, 1904		
<i>Eskasoni.</i>							
	North Sydney		John J. McLean	"	March 25, 1907	Appointments date from June 1st, 1907.	
1	French Vale	11	Daniel H. Gillis	"	Feb. 28, 1907		
2	Gillis Lake.	5	Miss H. L. McNeal	"	" 18, 1907		
3	East Bay.	4	James J. Gillis.	"	Jan. 15, 1907		
4	North Side East Bay	6		"	"		
5	Eskasoni	5	Miss Maria McDonald	"	Jan. 10, 1907		
	Castle Bay.	6		"	"		
<i>Repairs Sections.</i>							
	Alder Point—Little Bras d'Or.	37	Captain John Arsenault	50 00			
	Big Bras d'Or—Upper Kompt Head.		J. A. C. McKenzie	50 00			
	Little Bras d'Or—Upper Kompt Head.		R. R. McKenzie	50 00			
	North Sydney—Gillis Lake		Angus J. McLean	50 00			
	Gillis Lake—Eskasoni.		Duncan Gillis.	50 00			

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

NOVA SCOTIA TELEGRAPH SYSTEM.

CAPE SABLE SECTION.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per annum.	Date of Appointment.	Memo.
		Miles.		\$	cts.	
1	Barrington.....	0				This line has been leased to the Barrington Telephone Company from August 12, 1897. The lease is terminable at any time.
2	Newson (including $1\frac{1}{2}$ knots cable).....	11				
3	Cape Sable Island light-house (including $\frac{3}{4}$ mile cable).....	6 $\frac{3}{4}$				
	Totals.....	17 $\frac{3}{4}$				

EAST COAST SECTION.

N.B.—In connection with the Signal Service a land line, 208 miles in length, was erected in 1881, between Canso and Halifax, for a bonus of \$16,000, and is maintained and operated by the Western Union Telegraph Company, without further cost to the Government.

SESSIONAL PAPER No. 19

BAY OF FUNDY, N.B., TELEGRAPH SYSTEM.

GRAND MANAN SECTION.

1	Long Eddy Cable <i>Hut to</i> .									
	Flagg's Cove.....	3	Mrs. C. C. Seely (D. Su.)	540 00	Nov.	18, 1880	*The commission is 25 p.c. on all business to and from the office in each instance; and commission guaranteed to be less than at the rate of \$50 per annum. When 50 p.c. commission is paid there is no guarantee as to amount.			
	"		Miss V. A. McFarlane	50 00 or commission.	Oct.	1, 1903				
	"		A. Gilmour, repairer.	60 00	Dec.	1, 1894				
2	Castalia	2½	G. E. Dalzell.....	Commission 25 p.c.	June	1, 1898	• \$25 per annum is included for repeating Whitehead branch. Southern head office is now operated by telephone from Seal Cove.			
3	Woodward's Cove.....	2½	W. A. Fraser.....	" 50 p.c.	Feb.	28, 1893				
4	Grand Harbour.....	2	J. L. Newton.....	75 00 or commission.	April	1, 1887				
5	Seal Cove.....	4½	J. A. Ingersoll.....	50 00	Sept.	22, 1899				
6	Southern Head Light-house	5½	O. McLaughlin.....	Commission 25 p.c.	April	27, 1897				
	Branch Line.									
7	Grand Harbour.....	0								
8	Cheney's Island (½ knot cable).....	4½	S. E. Russell.....	" 25 p.c.	Feb.	1, 1891				
	Whitehead Island (¾ knot cable).....	1½	Mrs. W. Cassaboom.....	50 00 or commission.	"	1, 1903				
	Cable, Long Eddy to Liberty Cove.....	7½								
	Liberty Cove Cable <i>Hut to</i> .									
9	Welchpool	7½	Wellington Parker, Librarian	2 00 per day.						
	Cable across channel	1½	G. E. Mitchell.....	210 00 and commission	May	1, 1905	Employed occasionally.			
10	Eastport, Maine, U.S.A. ...	½	J. Cushing.....	200 00	Dec.	26, 1881				
	Totals.....	44½		1,635 00						

7-3 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.

CHATHAM-ESCOMINAC, N. B., TELEGRAPH SYSTEM.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
1	Chatham.....	0	Great Northwest Telegraph Co.....	185 00		This amount is paid for supervision of the line and office accommodation at Chatham.
2	Black Brook.....	5½	M. McDougall.....	50 00 or commission..	July 1, 1904.....	The commission is 25 p. c. of the Government line tariff receipts in each instance, and is guaranteed to amount to not less than \$50 per annum.
3	Bair du Vin.....	15	Mrs. M. Walliston.....	50 00	Mar. 1, 1885.....	
4	Lower Hardwicke.....	6	Mrs. M. Brimmer.....	50 00	Aug. 1, 1891.....	
5	Escominac.....	3½	D. Lewis.....	50 00	Sept. 1, 1885.....	
6	Point Escominac lighthouse.....	12	K. R. McLennan.....	50 00	Nov. 1, 1893.....	\$12 per annum allowed for care of main battery at Point Escominac.
	Totals.....	42½		435 00		

GROSSE ISLE QUARANTINE TELEGRAPH SYSTEM.

Quebec	0	Great Northwest Telegraph Co.....	185 00			This amount is paid for supervision of the line, and covers rent of pole line from Quebec to L'Ange Gardien, for which \$35 per annum is charged.
L'Ange Gardien.....	13					This commission is 25 p. c. of the Government line tariff in each instance, and guaranteed to amount to not less than \$50 per annum.
Orleans Island (cable).....	4½	C. Turcotte.....	50 00 or commission..	Mar. 1, 1885.....		
St. Pierre.....	3½	M. Plante.....	50 00	April 7, 1896.....		
St. Petronille.....	6½	M. Gobeil.....	120 00 and 25 per cent commission..	Sept. 15, 1888.....		
St. Jean.....	7	P. Pouliot.....	120 00 and 25 per cent commission..	July 1, 1888.....		
St. François.....	6½	O. Lemelin.....	480 00 per year.....	May 1, 1902.....		For local agency. Chief operator and repairer.
Isle Beaux knots cable).....	3½		50 00 or commission..	" 15, 1900.....		
Isle Beaux (land line).....	2½					
Grosse Isle quarantine off- ice (including 2 knots cable).....	3½	Miss Julia Leacock.....	100 00 and 25 per cent commission..	June 1, 1906.....		\$4 per month for messenger serv. in summer, and \$12 p. annum allowed for care of main batt. at Gr. Isle.
Quarantine telephone sys- tem 2 wire line.....	1½					NOTE.—The telephone system on Grosse Isle since May, 1893, has comprised 1½ miles of 2 wire line with 11 connections or stations.
Totals.....	52½		1,155 00			

SESSIONAL PAPER No. 19

<i>Loop Line</i> (2 wires.)	5½	P. Létoirneau.....	50 00 or commission	April 2, 1904....
St. Jean-St. Famille.....				

CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM.				
CHICOUTIMI SECTION.				
1 Bay St. Paul.....		F. Boivin.....	180 00 per annum. (	Previous to
2 St. Urbain.....	9	(A. Boivin.....	25 p.c. commission....	April 1, 1885....
3 La Gaiette.....	37	(Michel Fortin, repair	50 00 or commission n°	" 1, 1885....
4 Perland.....	27½	S. Ouellette.....	270 00 per annum....	Aug. 25, 1902....
5 St. Alexis.....	17	B. Lavoie.....	100 00 or commission	Mar. 1, 1905....
6 St. Alphonse de Bagothville.	8	Mrs. D. Simard.....	50 00 " "	Nov. 1, 1899....
7 Chicoutimi.....	11½	Mrs. C. Levesque.....	150 00 per annum....	June 1, 1906....
	98		1,110 00	
<i>Branch Line.</i>				
8 St. Alexis.....	0	Mrs. D. Simard.....	75 00	Nov. 1, 1905....
9 L'Anse St. Jean.....	10	P. V. Lavoie.....	50 00	May 1, 1904....
10 Petite Saguenay.....	30	(J. Martel, repairer..	210 00	Jan. 1, 1904....
11 Anse Cheval.....	8	(R. Martel.....	50 00	Sept. 1, 1903....
12 St. Etienne.....	6	M. Tremblay.....	50 00	Feb. 1, 1905....
St. Catherine Bay.....	7	Jos. Degagné.....	50 00	
	17	G. Bonicant (see North		
	78	Shore W. B. Line)...	485 00	
Totals.....	176		1,585 00	

*The commission on business is 25 per cent of the Government tolls of the line; the amount guaranteed to be not less than \$50 per annum.

Plus \$25 per year for operating branch line to L'Anse St. Jean.
J. Fortin division includes the branch line to L'Anse St. Jean.

(This office had been closed since April 30, 1904.)

MURRAY BAY—ST. AGNES SECTION.

1 Murray Bay.....	0	Mrs. F. Vincent.....		Jan. 1, 1904....
2 St. Agnes.....	7½	Jos. Gaudreau.....	50 00	May 1, 1906....
Trinity (Guay).....	7	Jos. Deaneux.....	50 00	
	14½		100 00	
1 Bay St. Paul.....	0	F. Boivin.....		Dec. 4, 1903....
Petite River.....	13	J. Bouchard.....	50 00	
	13		50 00	

(See Murray Bay, Bersimis section.)

(See Bay St. Paul, Chicoutimi section.)
(Payment at Bay St. Paul \$25 per year and \$12 for battery care, for operation of this branch to Petite River.)

Connections for these lines with the G. N. W. Telegraph System are made at Chicoutimi, Bay St. Paul and Murray Bay.

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.
CHICOUTIMI AND NORTH OF ST. LAWRENCE TELEGRAPH SYSTEM—Continued.
CHICOUTIMI SECTION—Continued.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
1	Tadoussac.....	0	Eugene Caron.....	Commission.		
2	Sacré Cœur.....	12½	J. H. Gravel, repairer.....	360 00		
3	St. Marguerite.....	8	1 Miss L. Maltais.....	50 00		
4	Price Bros. & Co.....	2	Mrs. P. Hervieux.....	50 00		
5	Descente des Femmes.....	34	Company.....	Accommodation.		
6	Lac Laurent.....	9	Aug. Villeneuve.....	50 00		
7	St. Fulgence.....	8	S. Gagnon.....	50 00		
8	St. Anne.....	8	G. H. Gagnon.....	50 00		
9	Chicoutimi.....	1	P. Gauthier, repairer.....	See below.		
			D. Villeneuve.....	"		
1	St. Charles.....	0	B. Boucher.....	50 00	Sept. 1, 1903.....	
2	St. Ambroise.....	10	A. Simard.....	50 00	June 1, 1905.....	
3	St. Leonard.....	7	Geo. Gagnon.....	50 00	Sept. 1, 1903.....	
4	Shipshaw, North.....	6	J. Murdoch.....	50 00	" 1, 1903.....	
5	Shipshaw.....	3	F. Dufour.....	50 00	Nov. 1, 1905.....	
6	St. Anne.....	8	P. Gauthier, repairer.....	200 00	Aug. 1, 1903.....	
			D. Villeneuve, operator.....	600 00	April 1, 1906.....	
	Chicoutimi.....	3	J. Lapointe, ".....	360 00	April 1, 1906.....	
			A. Simard, inspector.....	564 00	April 1, 1906.....	
			T. Villeneuve, night op.....	360 00		
			J. A. Couet, clerk.....	180 00		
			G. Guay, messenger.....	120 00		
			J. Fortin, repairer.....	420 00	June 1, 1897.....	
	Branch Line.	37		3,664 00		
1	St. Anne.....	0	P. Gauthier.....	50 00	Jan. 1, 1904.....	(See St. Charles—Chicoutimi section).
	St. Fulgence.....	0	Rev. Geo. Gagnon.....	360 00		
			John Brisson.....			
		9		410 00		
1	St. Anne.....	0	P. Gauthier.....	50 00	Feb. 1, 1904.....	
2	Range 9.....	3	Thos. Simard.....	50 00	Nov. 1, 1905.....	
3	Lac Charles.....	3	A. Dufour.....	50 00	" 1, 1904.....	
	Lac Clair.....	9	L. Boulianne.....	50 00	" 1, 1905.....	
		15		200 00		

SESSIONAL PAPER No. 19

NORTH SHORE (West of Bersimis).

	0	Mrs. F. Vincent.	50 00 or commission	Previous to	Plus \$25 per year, and \$12 for battery care for operation of branch to Guay.
1 Murray Bay.....				April 1, 1885.....	
2 Cap à l'Aigle.....	4	Mde. Bergeron.....	50 00	June 1, 1904.....	
3 St. Fidèle.....	6	Jos. Desbreaux.....	50 00	Dec. 1, 1905.....	
4 Port au Persil.....	7	{ A. Brassard, repairer	50 00	May 1, 1889.....	
5 St. Siméon.....	4	{ A. Brassard, repairer	210 00	June 1, 1887.....	
6 Baie des Rochers.....	12	G. Savard.....	50 00	Dec. 1, 1887.....	
7 St. Catherine Bay } Br. L.		D. Gaudin.....	50 00	June 1, 1887.....	
8 St. Etienne.....	17	{ G. Bouliant e.....	100 00	Nov. 1, 1886.....	
9 Tadoussac (1½ knot cable)...	13	{ E. Bouliant, repairer	210 00	Sept. 1, 1899.....	
10 Sacré Cœur.....	13	J. E. Caron.....	50 00	Nov. 1, 1888.....	
Br. from Tadoussac. }					
11 Bon Desir.....	12½	L. Maltais.....	50 00	Dec. 6, 1901.....	
12 Bergeronnes.....	10	Mde. E. Gauthier.....	50 00	Aug. 1, 1904.....	
13 Escoumans.....	5	M. Savard.....	50 00	April 1, 1885.....	
14 Baie des Bacons.....	12	J. H. Topping.....	50 00	" 1885.....	
15 Mlle Vachés.....	8	P. Bouchard.....	50 00 or commission.	May 6, 1902.....	
16 Anse Hamilton.....	11½	C. P. Easton.....	50 00 or commission.	April 1, 1885.....	
17 Portneuf, light.....	6	{ S. Bouchard.....	50 00 or commission.	Sept. 1, 1903.....	Commission at 25 per cent, without guarantee at Baie des Bacons.
18 Sault au Cochon.....	7	{ E. Courbron, repairer	420 00	July 1, 1890.....	Accommodation office.
19 Bersimis.....	31	{ A. Maloney, agent..	500 00	April 1, 1888.....	
		{ E. Pope, dist. supt.	600 00	Sept. 21, 1896.....	Sault au Cochon closed September 30, 1896.
*Totals.....	174		2,920 00	April 1, 1885.....	

*NOTE.—In the estimates, the maintenance of the Chicoutimi and North Shore lines is provided under head of North Shore Line. They are operated conjointly.

NORTH SHORE (East of Bersimis).

		H. Tremblay.....	50 00 or commission.	Dec. 1, 1896.....	The repeating office formerly at Manicouagan was removed to Bersimis in September, 1886.
1 P'te aux Outardes (cable)...	12				
P'te Paradis (Manicouagan cable landing).....	18				
2 Scougal's Mills 14 mile loop line from P'te Paradis.....	28	Accommodation.....	25 p.c. commission	Aug. 1, 1901.....	
3 River Godbout (cable).....	26	N. A. Comeau.....	50 00 or commission.	Oct. 15, 1885.....	
4 Pointe des Monts.....	18½	L. F. Faifard.....	50 00	Dec. 28, 1883.....	
5 Trinity Bay West.....	5½	Z. Poulin.....	50 00	May 16, 1884.....	
6 Trinity Bay East.....	2½	A. Bilodeau.....	25 p.c. or commission.	" 1, 1889.....	
7 Carillon Islands.....	7	L. Comeau.....	"	Sept. 1, 1889.....	

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—*Continued.*
CHICOUTIMI AND NORTH OF ST. LAWRENCE TELEGRAPH SYSTEM—*Continued.* NORTH SHORE (East of Bersimis).

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
8	Pointe aux Anglais.....	10½	Paul Côté.....	Accommodation office.....	Jan. 10, 1895.....	No commission is paid at this office.
9	Pontecost.....	6½	P. Molloy.....	250 00 per annum.....	Sept. 17, 1906.....	
10	Ste. Marguerite.....	47½	A. Theriault.....	180 00 per annum.....	July 1, 1888.....	
11	Clark City.....	5	Accommodation office.....	25 p. c. commission.....	April 17, 1903.....	Plus 50 cents per day when absent on duty. There is also an accommodation office in operation at Moisie in the fishing season.
12	Seven Islands.....	17¾	P. E. Vignault.....	180 00 per annum.....	Jan. 2, 1884.....	
13	River Moisie.....	15½	J. F. Gallienne, repr.....	540 00 " " •.....	Nov. 5, 1906.....	
14	Pigon.....	28	J. Poirier.....	50 00 or commission.....	June 1, 1896.....	
15	Little River.....	29	(Mrs. Peter Wright, opr.)	100 00 " ".....	Oct. 1, 1902.....	
16	Shelbroke.....	15	(Peter Wright, repr.)	112 00 " ".....	" " 1, 1902.....	Long Point is the repeating office for the Anticosti cable in operation since September 1, 1891.
17	Thunder River.....	6½	Miss H. Leberge.....	50 00 " ".....	" " 10, 1900.....	
18	Magpie.....	14	Mrs. Alphonse Girard.....	50 00 " ".....	Dec. 1, 1904.....	
19	St. John River.....	9	Mrs. H. Gady.....	50 00 " ".....	Feb. 1, 1890.....	
20	Long Point.....	10	(Geo. Molloy.....)	50 00 " ".....	Oct. 1, 1889.....	
21	Mingan.....	7	B. Chambers.....	50 00 " ".....	" " 1, 1889.....	Allowance for office rent \$4 per month. Plus 50 cents per day when absent on duty.
22	Point Esquimaux.....	24	(E. H. Tetu Dist. Supt.)	1,080 00 per annum.....	Nov. " 1, 1891.....	
23	Betchouanes.....	20	(Mrs. E. H. Tetu, opr.)	300 00 " ".....	" " 1, 1903.....	
24	Prairie Bay.....	23	M. J. Maloney.....	500 00 " ".....	Sept. 11, 1906.....	
25	Watchou.....	15	(Mrs. D. C. Hould.....)	50 00 or commission.....	Oct. " 1, 1889.....	
26	Agnanus.....	21¾	(Edwd. Cyr, inspir.)	240 00 per annum.....	Sept. 1, 1887.....	This office was closed on withdrawal of former agent from Sept. 4, 1903, \$12 rent to J. Beetz.
27	Natashquan.....	21	Jos. Picard, op. & rep.....	500 00 " ".....	Nov. 2, 1902.....	
28	Kegaska.....	33	(S. Tanguay, repr.)	212 00 " ".....	July 15, 1904.....	
29	Masquaro.....	18	(Mrs. J. Beetz, opr.)	112 00 " ".....	Sept. 18, 1902.....	
30	Romaine.....	25	(Mrs. Cl. Bourque, opr.)	100 00 " ".....	" " 1, 1903.....	
31	Wolf Bay.....	24	(John Bourque, repr.)	100 00 " ".....	Dec. " 1, 1903.....	Plus 50 cents per day when absent on duty.
32	Pointe au Maurier.....	24	(S. Galant, repr.)	112 00 " ".....	" " 3, 1902.....	
			(Mrs. Galant, opr.)	100 00 " ".....	Sept. 3, 1902.....	
			(C. Vignault, repr.)	112 00 " ".....	" " 5, 1905.....	
			(Miss Vignault, opr.)	100 00 " ".....	" " 5, 1905.....	
			(Geo. Anderson, repr.)	100 00 " ".....	" " 16, 1902.....	Plus 50 cents per day when absent on duty.
			(J. L. Osborne, inspir.)	100 00 " ".....	" " 16, 1902.....	
			Wm. Foreman, opr & rep.....	500 00 " ".....	" " 1, 1902.....	
			(M. Blais, repr.)	212 00 " ".....	June " 1, 1903.....	
			(Miss R. Blais, opr.)	112 00 " ".....	Sept. 17, 1902.....	
			(R. Jones, repr.)	150 00 " ".....	Nov. " 25, 1902.....	
			(Mrs. R. Jones, opr.)	100 00 " ".....	" " 26, 1902.....	
			(J. Galibois, repr.)	112 00 " ".....	Sept. " 19, 1902.....	
			(Miss P. Galibois.....)	100 00 " ".....	" " 19, 1902.....	

SESSIONAL PAPER No. 19

33	Harrington.....	20	(J. Jones, repr.	112 00	"	"	20, 1902.....
34	Whale Head.....	17	(Mrs. Jones, opr.	100 00	"	"	"
35	Mutton Bay.....	20	Nap. Nadeau, rep. & opr.	212 00	"	Jan. 21, 1903.....	
36	Baie de Ha.....	27	Alf. Cormier, rep. & opr.	444 00	"	June 1, 1902.....	
37	St. Augustine	27	(Mrs. J. Monger, opr.	100 00	"	" 14 1904.....	
38	Coxip.....	24	(J. Monger, rep.	112 00	"	" 14 1904.....	
39	Rocky Bay	30	G. W. Burgess, rep. & opr.	212 00	"	Sept. 25, 1902.....	Closed June 14 1904.
40	St. Paul River.....	21	(Miss B. E. Chevalier, o.	212 00	"	April 20, 1904.....	
41	Brador Bay.....	29	(L. O. Chevalier, rep.	112 00	"	" 20, 1904.....	
42	Blanc Sablon.....	6	(G. Chevalier, repr.	112 00	"	Oct. 2, 1902.....	
43	Forteau Bay.....	13	(Miss Chevalier, opr.	110 00	"	" 2, 1902.....	
44	Pont-Au-Prince.....	17	(Johnny Jones, opr.	100 00	"	June 13, 1903.....	
45	West St. Modeste.....	16	(P. C. Vignault, insp.	500 00	"	Feb. 1, 1903.....	
46	Red Bay.....	13	(Thos. Morel, rep. & opr.	212 00	"	Oct. 1, 1902.....	
47	Chateau Bay.....	30	(A. Hart, repr. & opr.	212 00	"	July 19, 1902.....	
48	Belle Isle.....	23 ³	(Thos. Whyatt, rep. & opr.	112 00	"	Feb. 17, 1903.....	
			(Jas. Bolger, rep. & opr.	212 00	"	Oct. 5, 1902.....	
			(Geo. Moore, repr.	112 00 ⁴	"	" 9, 1902.....	
			(Miss Moore, opr.	100 00	"	" 9, 1902.....	
			(.....	.....	"	Sept. 1, 1902.....	
			(.....	.....	"	Dec. 1, 1902.....	
			(.....	.....	"	Nov. 1, 1903.....	
			(.....	.....	"	Sept. 14, 1902.....	
			J. C. Cotton, opr.	300 00 per annum.....			
	Totals.....	916		10,896 00			

Plus 50 cents when absent on duty.

closed Dec. 1, 1906.

Closed June 14 1904.

Plus 50 cents when absent on duty.

} closed Dec. 1, 1906.

ONTARIO—PELEE ISLAND TELEGRAPH SERVICE.

1	Leamington.....	.....	J. Melt Selkirk, D. Supé	50 00	Nov. 1, 1888.....
2	Bairds.....	1	Accommodation office.....	.....	" 2, 1904.....
3	Leamington Dock	1	F. Deslaurier, accom- modation office.....	.....	" 1, 1885.....
4	Tildens.....	5	Accommodation office.....	.....	April 1, 1905.....
5	Point Pelee.....	5	W. A. Grubb.....	Commission 25 p.c.....	Nov. 1, 1888.....
6	Leamington Dock to North Point Cable.....	17	.....	Commission 25 p.c.....	
7	North Point Lighthouse.....	1	J. R. Ledwell.....	.....	June 1, 1899.....
8	North Dock.....	2	C. B. Quick.....	.....	Nov. 1, 1888.....
9	McIntyre's Corner	24 ¹	A. M. McCormick.....	"	Nov. 9, 1888.....
10	West Dock.....	5 ¹	Mrs. F. B. McCormick.....	"	Aug. 1, 1904.....
	South Dock.....	.....	.....	.....
	Totals.....	42 ¹		50 00	

This is the connection that was formerly made with the club house near by.

The cable formerly 94 knots from Point Pelee to the Island is now laid as here indicated 17 knots. The change was effected in August, 1901.
Closed in August, 1904.

NOTE: This line is operated by telephone.

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.
QU'APPELLE—ATHABASKA LANDING SECTION.

No.	Stations.	Inter- mediate, Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		\$ cts.		
1	Qu'Appelle.....	0	R. C. Macdonald, supt. J. S. Macdonald, gen. ins. C. P. R. Tel. Co.....	1,500 00 2,000 00 420 00	Oct. 1, 1905... June 1, 1905... Dec. 1, 1906...	Resides at Kamloops. The agent operator at Qu'Appelle is joint with the C. P. R.
2	Ft. Qu'Appelle.....	17	J. W. Wilson, lineman	600 00	Mar. 1, 1902...	Miss Johnstone resigned Aug. 15, 1906.
3	Lipton.....	11	P. R. Elmer.....	600 00	Aug. 15, 1906...	Agent operator at Lipton, joint C.P.R.
4	Touchwood.....	29	C. P. R. Tel. Co.....	Commission 10 p. c.	May 1, 1906...	Agent operator paid by H. B. Co.
5	Kitawa.....	6	J. Kelly.....	720 00	June 1, 1906...	
6	South Humboldt.....	78	A. VonLindeburgh.....	720 00	Nov. 1, 1883...	
7	Saskatoon.....	69	H. J. Macdonald.....	720 00	Feb. 1, 1904...	
			C. P. R. Tel. Co.....	300 00	Jan. 1, 1892...	
			G. T. Clement, lineman	600 00	Oct. 16, 1903...	
8	Warnan.....	14	Can. Nor. Ry. Co.....	Comm. 25 p. c. of receipts	Nov. 23, 1905...	Agent operator joint with C. P. R. Can. Northern agent acts as agent on commission.
9	Henrietta.....	38	W. J. Salisbury.....	720 00	Oct. 1, 1886...	Operated on commission.
10	Battleford.....	47	J. D. Noel.....	720 00	" 1, 1900...	
11	Bresaylor.....	27	Wm. Dewar.....	720 00	Mar. 1, 1907...	G. Donovan resigned July 31, 1906.
12	Lloydminster.....	70	J. T. Galahan.....	720 00	Dec. 1, 1900...	
13	Onion Lake.....	50	E. A. McCleneghan.....	600 00	April 1, 1904...	
14	Moose.....	33	H. McCleneghan.....	720 00	Aug. 1, 1899...	
15	St. Paul des Nevis.....	32	G. G. Mann.....	720 00	" 1, 1902...	
16	Saddle Lake.....	13	C. Boulane.....	600 00	Nov. 1, 1906...	J. A. Therien, resigned Oct. 31, 1906.
			J. W. Carroll.....	720 00	Sept. 1, 1900...	Telephone line from Saddle Lake to Industrial School 6½ miles
17	Victoria.....	37	R. Gordon.....	600 00	Feb. 1, 1905...	
18	Andrew.....	10	B. Carey.....	600 00	Mar. 15, 1906...	Telephone line from Andrew to Whitford 6 miles.
19	Star.....	18	C. Norn, lineman.....	600 00	" 15, 1906...	
20	Ft. Saskatchewan.....	25	E. A. Holmes.....	600 00	Aug. 2, 1904...	
21	Edmonton.....	18	A. W. M. Campbell.....	600 00	Oct. 1, 1888...	
			Geo. E. MacLeod.....	900 00	Nov. 6, 1906...	
22	Athabaska Landing.....	98	W. McKay, lineman.....	780 00	May 1, 1886...	
			Jas. McKernan.....	600 00	Oct. 1, 1904...	
		750		18,860 00		
23	Whitford.....	7	The postmaster.....	Commission 25 p. c.....	July 1, 1905....	Connection is made with the telegraph office at Andrew.
	Telephone extension.					

SESSIONAL PAPER No. 19

BRANCH LINES.

Edmonton	8	These branch lines are operated by the Edmonton District Telephone Co.
23 Winterburn	5½	.....	.....	.....
24 Stony Plain	8	.....	.....	.....
25 Spruce Grove	6½	.....	.....	.....
26 Stony Plain Station	3½	.....	.....	.....
27 " Centre	9	.....	.....	.....
28 St. Albert	12	.....	.....	.....
29 Raye	8	.....	.....	.....
30 Rivière qui Barre	5	.....	.....	.....
31 Alexandria	65½	.....	.....	.....

WOOD MOUNTAIN SECTION.

1 Moose Jaw	(C. P. R. Tel. Co.)	240 00	Dec. 1, 1891	The Agt. operator at Moose Jaw is joint with C.P.R.
	(H. Sikes, Batteryman.)	120 00	Dec. 1, 1893	
2 Wood Mountain	(J. H. Thomson.)	600 00	Dec. 1, 1890	
	(F. Brown, Lineman.)	600 00	Nov. 1, 1905	
3 Willow Bunch	(M. A. Noel.)	600 00	Oct. 19, 1904	
		2,160 00		

DUCK LAKE SECTION.

1 Batoche	D. H. Grant	120 00	Oct. 1, 1902	A. H. Gordon resigned March 31, 1907.
2 Duck Lake	H. S. Perkins	120 00	Apr. 1, 1907	
		240 00		

BANFF TELEPHONE SYSTEM.

Local System in Banff Na-	H. Douglas (Supt.)	This system is looked after by Mr. Douglas, super- intendent of the National Park.
tional Park	J. H. Grierson (Line- man)	25 00	
		25 00	

Totals:—Number of offices, 36.
Mileage, 958.
Employees, 35.
Salaries per annum, \$19,225 00.

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.

LINES IN BRITISH COLUMBIA.

No.	Stations.	Inter- mediate Distance.	Agent, &c.	Positions.	Salaries per Annum.	Date of Appointment.	Memo.
	<i>Kanloops—Lower Nicola, Telephone Line.</i>	Miles.	(See note in margin).		\$ cts.		
1	Kanloops	0	C. S. Stevens.	Dist. Sup.	* 1,200 00	June 1, 1904.	NOTE.—This line is operated under the superintendence of the resident architect at Victoria. For conversations 25c. for 5 minutes, half that rate for each additional 5 minutes or fraction thereof.
2	Anderson Creek	12	Miss E. McKnight.	Clk & Ag.	420 00	July, 1901.	
3	Nicola	12	W. McLeod.	Agent.	480 00	" " 1901.	
4	Stumps Lake	13	Mrs. M. V. Munro.	Exc. oper.	480 00	" " 1901.	NOTE.—The lessees pay a monthly rent for the connections, and are allowed 25 per cent commission on local tolls for messages and conversations of non-subscribers.
5	Beaver Ranch	20	Thos. Bunman.	"	"	" " 1901.	
6	Quelchena	20	J. W. Moor.	"	"	" " 1901.	
7	Nicola Lake	9	E. O'Rourke.	"	"	May, 1900.	Three additional connections in July, 1901. Add at Nicola Lake, July 1, or Government Office, Dr. Sutton, A. R. Carrington.
8	Contlee	13	A. E. Howse.	"	"	July, 1901.	
9	Lower Nicola	13	Blair & Co.	"	"	May, 1900.	
10	Aspen Grove	24	G. Armstrong.	"	"	"	
11	Orter Valley	2	"	"	"	"	
12	Princeton	26	A. E. Howse & Co.	"	180 00	Feb. 1, 1905.	See note in body of report.
13	Hadley	25	John Love.	Exc. oper.	480 00	" 1, 1905.	
14	Keremeos	29	"	"	"	"	
15	Parrysw	12	"	"	"	"	
16	Penticton	37	J. A. Schubert.	"	120 00	" 1, 1905.	
	Totals	235					

* Increased to \$1,200, March 1, 1907.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—Continued.

BRITISH COLUMBIA—Continued.

No.	Stations.	Inter- mediate, Distance.	Agents, &c.	Positions.	Salaries per Annum.	Date of Appoint- ment.	Memo.
	<i>Vernon-Kilowna Line.</i>	Miles.			\$ cts.		
1	Vernon	0	{ Miss G. E. Seaton { A. S. Muir	Agent and operator. Telephone Agent.	360 00 Commis.	Mar. 1, 1905	This line is operated both as a telephone and telegraph line. Joint agent with C. P. Telegraph. The commission is 25 per cent of the Government line tolls.
2	Kilowna	35	{ H. H. Miller & Co. { A. L. Weeks	Agts tel. and telegr. Lineman.	720 00 720 00	" 1, 1905 Aug. 1, 1905	
	Totals	35			1,800 00		

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.
BRITISH COLUMBIA—Continued.

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appoint- ment.	Memo.
	<i>Victoria—Cape Beale.</i>	Miles.		cts.		
1	Victoria.....	0	(See note in margin).....			<p>NOTE—The superintendence of this line has been in the hands of the resident architect at Victoria since October, 1901, when the arrangement theretofore in operation with the C. P. Ry. Co. was terminated.</p> <p>Allowance of \$7.50 horse hire when necessary to come to Victoria repairing line. During winter months only.</p>
2	Sooke.....	18	E. Houghton, oper. (C. P. Tel.)	200 00	Nov. 1, 1891	
	*Outer Point.....	8	Percy Clark, line repairer.....	540 00	Dec. 1, 1903	
			E. Gordon, agent and operator.	720 00	" 1, 1891	
3	*Jordan River (Shirley).....	10	E. Clark.....	540 00	" 1, 1903	
4	Port San Juan (Port Renfrew).	30	(E. C. Williams.....	240 00	Sept. 22, 1903	
			(J. W. Williams, repairer.....	520 00	May 1, 1905	
			(W. P. Daykin, repairer.....	240 00	Nov. 1, 1891	
5	Carmunah Lighthouse.....	24	(D. Logan, repairer.....	540 00	April 1, 1898	
	(Clo-oose 2 miles west.....)		(R. S. Daykin, repairer,	540 00	June 1, 1905	
6	Cape Beale.....	28	M. Patterson, agent & operator	120 00	Sept. 1, 1899	
	Totals.....	118		3,660 00		

* Telephone connections for the convenience of several firms in the neighborhood have been established at *Jordan River* for Messrs. Bell, Irving & Co., Point-no-Point; The B. C. Packer's Asso., Point-no-Point and Jordan River; Capital City Canning Co., French's Ranch; J. H. Todd & Co., Coal Creek; 5 connections, rent paid \$12 each for a canning season. At *Outer Point* for Messrs. J. H. Todd & Son, The B. C. Packers's Asso., Capital City Canning Co. and the B. C. Mess.; one connection in common at *Sooke Wharf*, \$12 for the season.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—Continued.
BRITISH COLUMBIA—Continued.

No.	Stations.	Inter- mediate Distance.	Agents, &c.	Positions.	Salaries per Annum.	Date of Appoint- ment.	Memo.
	<i>Nanaimo-Comox.</i>	Miles.			\$ cts.		
1	Nanaimo	0	(W. F. Archibald, A. E. Booth, joint with C.P.R.)	Agent and operator..	306 00	Mar. 1, 1896	The amount comprises \$20 per month for agency and operation, \$3 for messenger service and \$2.50 for battery care.
2	Wellington	5	E. & N. Ry. Co.	Assistant operator..	120 00	June 1, 1902	
3	Parksville	23	(Mrs. R. Williams W. Mills)	Agent and operator..	360 00	April 1, 1893	
4	Union Bay	32½	(Miss E. McDon- ald)	"	360 00	Dec. 1, 1897	
5	Union Mines		(Thos. Hudson, J. Dunsinuir)	Lineman	360 00	June 1, 1903	
6	Cumberland	10	Albert Peacy..	Agent and operator..	360 00	" 3, 1898	
7	Courtney	7	J. McPhee & Son.	Lineman	780 00	Nov. 17, 1898	See mention of this in body of report (1897-98).
8	Comox	7½	M. McDonald	Accommodat'n office.	120 00	"	
	Totals	81		Agent and operator (p.c.,... com. 25 p.c.)	360 00	Apr. 28, 1898	Courtney and Comox communicate by telephone at prearranged intervals.
	<i>Parksville, Alberni and Cape Beale Line.</i>			Telephone Agent..	360 00	Nov. 1, 1895	
				Agent and operator..	2,766 00		NOTE—The repairs of this line has been done jointly with the Can. Pac. Telegraph since December 1, 1902.
	Parksville	0	(See above).				
1	Alberni	29½	Mrs. P. A. Haslam	Agent and operator..	240 00	Oct. 1, 1899	Proportion of salary for Comox line included.
2	Banfield Creek.....	53	Can. Pac. Tel.	"	com. 50 p.c. 240 00	Dec. 1, 1902	
	Cape Beale	4	M. Patterson,	Agent and operator..	240 00	May 1, 1900	Proportion of salary for this line.
		86½			480 00		

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—Continued.

BRITISH COLUMBIA—Continued.

No.	Stations.	Inter- mediate Distance.	Agents, &c.	Positions.	Salaries per Annum.	Date of Appointment.	Memo.
	<i>Alberni-Clayoquot Line.</i>				§ cts.		
1	Alberni.....	0	P. O. Haslam.....	Agent and operator.	120 00	Dec. 1, 1902..	Proportion for this line.
2	New Alberni.....	2	E. A. Waterhouse..	"	Com. 25 p.c.	Oct. 1, 1903..	Line crosses canal at this point by submarine cable.
	<i>Franklin Creek ¾ mile cable.</i>	8					
3	Uchucklesit*.....	10	E. B. Girard.....	Agent lineman.....	660 00	Oct. 1, 1902..	Section extends from Franklin Creek to Pipestem Inlet; post office address, New Alberni.
4	Ucluclet.....	10½	(W. L. Thompson..	"	720 00	Dec. 1, 1902..	
5	Clayoquot.....	6½	H. J. Hillier.....	Lineman.....	780 00	" 1, 1902..	
	Stubbs' Island.....		E. S. Reeve.....	Agent lineman.....	720 00	" 1, 1902..	
	Totals.....	90½		Accommodation office	3,000 00		Private cable connection for local firm.
	<i>Golden-Windermere Line.</i>						
1	Wilmer.....	0	R. A. Power.....	Agent and lineman..	780 00	Jan. 1, 1902..	Operated from Windermere, Wilmer and Spillimacheen.
2	Athalner.....	5	Teleph. connection..	"		July 1, 1904..	" Spillimacheen and Athalner.
3	Windermere.....	5	G. C. Pitts.....	G. C. Pitts.....	900 00	Jan. 1, 1902..	Local superintendency.
4	Spillimacheen.....	16	(W. F. Dunn.....	Agent and lineman..			Operated from Windermere, Wilmer and Athalner.
5	Golden.....	66	Teleph. connection..	"	480 00	Dec. 1, 1904..	Joint agent with C. P. Tel.
	Totals.....	92	W. A. Decow.....	Agent and operator.	2,160 00		

*Telephone connection between this office and premises of the Nathaniel Mining Company.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—*Concluded.*BRITISH COLUMBIA—*Concluded.*

No.	Stations.	Inter- mediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
	<i>Vancouver-Salt Springs Line.</i>					
1	Duncan Station.	9	E. Castley.	Commission 25 p.c.	July 1, 1905 . .	
2	Maple Bay	3	T. Aitken.	" 25 p.c.	" 1, 1905 . . .	
3	Chisholm	3 ²	A. Chisholm.	" 25 p.c.	" 1, 1905 . . .	
4	Edwards' Store.	3 ²	Edwards & Co	" 25 p.c.	Mar. 1, 1902 . .	
5	Ganges Harbour	9	E. Purvis.	" 25 p.c.	July 1, 1905 . . .	
	Totals.	24 ¹ / ₂				

There have been no staff appointments on this line, it being worked by telephone for the present merely for general convenience and looked after by the persons directly interested.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

NAMES of employees and monthly salaries, &c., Yukon Telegraph Service, &c.—*Con.*
YUKON LINES—*Continued.*

Number.	Stations.	Intermediate Distance.	Positions.	Salaries per Month.	Tariff.	Night Rate.
				\$ cts.		
35	3rd Cabin	25	W. J. Tonvie, operator	75 00		
36	4th Cabin	20	P. Burnell, "	75 00		
37	5th Cabin	20	E. A. Hawley, "	100 00		
			C. Jepson, lineman	\$3 per day		
38	6th Cabin	20	G. T. Brown, operator	100 00		
39	7th Cabin	19	T. E. Harkin, "	100 00		
40	8th Cabin	19	Jas. Mooney, "	100 00		
			L. Dubois, lineman	\$3 per day		
41	9th Cabin	17	J. Muir, operator	100 00		
			G. Hill, lineman	\$3 per day		
42	Echo Lake	32	F. N. Jackson, operator	100 00		
			J. Lowery, lineman	\$3 per day		
43	25-Mile Cabin	25	J. H. Murie, operator	100 00		
			J. W. Hovey, lineman	\$3 per day		
44	Iskoot	16	J. W. Watts operator	100 00	175 " 10	
			W. Warnock, lineman	\$3 per day		
45	Telegraph Creek	61	A. S. Gillespie, operator	100 00		
			W. S. Simpson, lineman	175 00		
			A. J. Charleson, line foreman	50 00		
46	Shesley	45	W. P. Ball, operator	82 50		
			Geo. E. Adsit, linemen	75 00		
47	Nahlin	61	S. G. Lawrence, operator	82 50	200 " 15	
			R. McKay, lineman	75 00		
48	Nakina	49	Geo. Coutts, operator	82 50		
			J. Haston, lineman	75 00		
49	Pike River	40	R. J. Barton, lineman & operat.	82 50		
50	Atlin	23	F. W. Dowling, circuit manager	116 66		
			A. B. Taylor, "	100 00		
			D. H. Gagné, line foreman	75 00		
51	Center Cabin	35			225 " 15	
52	Tagish	40	M. Grimes, operator	82 50		
			Adam Dickson, lineman	75 00		
			Gastin Aish "	75 00		
53	Carcross	18	S. E. Chambers, operator	82 50		
54	White Horse	65		175 00	250 " 15	
			H. Gilchen, actg. supt.	150 00		
			J. P. Champagne, clerk	112 50		
			G. S. Flemming "	115 00		
			G. Henderson, lineman	75 00		
			Wm. Watson, messenger	25 00		
			T. Wakamoto, housekpr & cook	75 00		
55	Lower LeBerge	59	Douglas Potts, operator	82 50		
56	Hootalinqua	30	W. Peters, operator	82 50		
57	Big Salmon	34	H. O. Lokken, lineman	75 00		
58	Tantalus	30	R. Daoust, operator	82 50		
59	Five Fingers		R. O. Freeman, operator	82 50		
60	Yukon Crossing	8	Aubry Tennant, operator	82 50		
			K. Smith, lineman	75 00	275 " 75	
61	Fort Selkirk	50	Bruce Watson, operator	82 50		
62	Selwyn	30	R. P. Hall, operator	82 50		
			N. Wade, lineman	75 00		
63	Stewart River	75	Chas. N. Graham, operator	82 50		
64	Ogilvie	23	J. W. Wilkinson "	82 50	300 " 20	
65	Dawson	48	W. Brownlow, manager	150 00		
			G. A. McLachlin, operator	125 00		
			F. A. Hanley, operator	125 00		
			A. B. Clerg, operator	125 00		
			H. Douglas, jr., messenger	\$3 per day		
			Mrs. D. Hunt, housekpr & cook	100 00		
			Jas. McMenamin, lineman	80 00		
			C. A. Couture, line foreman	125 00		
66	Forty Mile	55	W. H. Mullin, operator	82 50		
67	Boundary	40			325 "	
	Total	2,252½				

7-8 EDWARD VII., A. 1908

GOVERNMENT TELEGRAPH SERVICE—*Concluded.*

NAMES of employees and monthly salaries, &c., Yukon Telegraph Service, &c.—*Concluded.*

Number.	Stations.	Intermediate Distance.	Positions.	Salaries per Month.	Tariff.	Night Rate
				\$ cts.		
..	Vancouver .....	.....	J. T. Phelan, acting supt	175 00		
			J. J. Healy, clerk	140 00		
			Emma Keays, stenographer.....	65 00		

YUKON TARIFFS.

The rates given above for points north of Quesnelle are one-third less than those primarily adopted, which were calculated on the general basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, counting the distance from Ashcroft.

The local rates between offices north of Quesnelle are calculated on the basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, and the local rates between offices north of Atlin are fixed at 50 cents for each 100 miles.

Cable Messages.—On transatlantic business the word rate is twice as much as the additional word rate given in the list for all points north of Ashcroft—Barkerville, $3 \times 2 = 6c.$; Dawson, $20 \times 2 = 40c.$ per word.

On transatlantic business the word rate is the additional word rate plus $4c.$; Barkerville, $3 + 4 = 7c.$; Dawson, $20 + 4 = 24c.$ per word to or from Ashcroft.

Press Despatches.—For the Yukon line the rate is 1 cent per word, minimum charge, \$1; this applies to the whole line. Exception, Barkerville-Ashcroft section (local) minimum charge, 50 cents.

Yukon system connects at Boundary with U.S. Sig. Service Telegraph System.

GOVERNMENT TELEGRAPH LINES.

SPECIAL TARIFF.

Cable messages.—Rates for cable messages passing over the Yukon line will be found in connection with the Yukon tariff in the preceding pages.

Elsewhere, the rate for transatlantic messages passing over the government lines is the same as for ordinary through messages, excepting where the ordinary tariff is more than 25 cents; in such cases the government line rate is 4 cents per word, with a minimum charge of 25 cents. For example:—

For a message of six words or less the charge is 25 cents for government line.

For a message of seven words the charge is (7×4) 28 cents for government line.

For a message of twelve words the charge is (12×4) 48 cents for government line.

In every case the counting of words includes the address and signature in the same way as for transatlantic cable tolls.

SESSIONAL PAPER No. 19

Press despatches.—The rate for press despatches on the government lines (excepting the Yukon line), is 20 cents per 100 words; no single message less than 20 cents.

For the Yukon line the rate is 1 cent per word, minimum charge \$1; this applies to the whole line. Exception, Barkerville-Ashcroft section (local) minimum charge 50 cents.

REGULAR TARIFF.

NOVA SCOTIA.

Line from North Sydney to Meat Cove and Mabou—Local rate, 25-1 (20 offices).*

Big Bras d'Or.	Through rate 15-1 from North Sydney, W. U. office.		
New Campbellton's (Kelly's Cove)	"	"	"
Englishtown.	"	"	"
Baddeck.	"	"	"
Murray.	"	"	"
Indian Brook.	"	"	"
French River.	"	"	"
South Ingonish.	"	"	"
Ingonish.	"	"	"
Neil's Harbour.	"	"	"
Dingwall.	"	"	"
Aspy Bay.	"	"	"
Meat Cove.	"	"	"
Pleasant Bay.	"	"	"
Cheticamp.	"	"	"
Grand Etang.	"	"	"
Northeast Margaree.	"	"	"
Margaree Harbour.	"	"	"
Southwest Margaree.	"	"	"
Inverness Town (Broad Cove).	"	"	"

Night messages are exchanged with the Western Union Telegraph Company for offices on this line. Rate, 1 cent per word with minimum of 15 cents. The local night rate is 1 cent per word with minimum of 25 cents.

Line from Barrington to Cape Sable—Local rate, 12-1.

Newellton.	Through rate 12-1 from Barrington, W. U. office.		
Cape Sable Lighthouse.	"	"	"

This line is now operated by the local telephone company. Terms of lease provide for former telegraph rate as above not being exceeded.

NEW BRUNSWICK.

Line from Chatham to Point Escuminac—Local rate 25-1 (4 offices).

Bay du Vin.	Through rate 15-1 from Chatham, G. N. W. office.		
Lower Hardwicke.	"	"	"
Escuminac.	"	"	"
Pt. Escuminac Lt. House.	"	"	"

* When the tariff rate is entered as 25-1 or 50-2, &c., the meaning is that the rate is 25 cents or 50 cents for ten words and 1 cent or 2 cents for each additional word.

7-8 EDWARD VII., A. 1908

Line from Eastport, Me., to Campobello, Grand Manan, and Whitehead Islands (9 offices)—Local rates between offices on Grand Manan and Whitehead Islands, 15-1; Grand Manan and Campobello Island, 25-2; The Islands and Eastport, Me., 25-2, W. U. O.

Welchpool, Campobello.	Through rate 25-2 from Eastport, Me., W. U. office.		
Flagg's Cove, Grand Manan.	"	"	"
Castalia.	"	"	"
Woodward's Cove.	"	"	"
Grand Harbour.	"	"	"
Seal Cove.	"	"	"
Southern Head.	"	"	"
Cheney's Head.	"	"	"
Whitehead Islands.	"	"	"

QUEBEC.

Line from Gaspé to Anticosti Island, Q. (9 offices)—Local rates between offices on the Island, 25-1; Gaspé and the Island offices, 50-2.

South-West Point.	Through rate 50-2 from Gaspé, G. N. W. office.		
Salt Lake.	"	"	"
Shallop Creek.	"	"	"
South Point.	"	"	"
Heath Point.	"	"	"
For Bay.	"	"	"
Becsie River.	"	"	"
West Point.	"	"	"
English Bay.	"	"	"

Line from Meat Cove, C.B., N.S., to Magdalen Islands, Q (9 offices)—Local rates between offices on the Islands, 25-1; Meat Cove and the Islands, 50-2; offices on the Meat Cove line and the Islands, 50-2.

Amherst Island.	Through rate 50-2 from North Sydney, W. U. office.		
Amherst Lt. House.	"	"	"
Etang du Nord Village.	"	"	"
Etang du Nord Lt. House.	"	"	"
Cap aux Meules (Grindstone).	"	"	"
House Harbour.	"	"	"
Grosse Isle.	"	"	"
Grand Entry.	"	"	"
South Beach.	"	"	"
Bryon Island.	"	"	"

Line from Meat Cove, C.B., N.S., to St. Paul's Island—Local rate between offices on Meat Cove line and St. Paul's, 50-2 (1 office).

St. Paul's Island Lt. House, 50-2 from North Sydney, N.S., W. U. office.

SESSIONAL PAPER No. 13

Line from Quebec to Grosse Isle Quarantine Station (7 offices).—Local rates between offices on Orleans Island and Isle Réaux, 15-1; on Orleans Island, Isle Réaux and Quebec, 15-1; on Orleans Island and Grosse Isle, 25-1; on Isle Réaux and Grosse Isle, 15-1.

St. Pierre, Orleans Island.	Through rate 15-1 from Quebec, G. N. W. office.		
Ste. Pétronille.	"	"	"
St. Laurent.	"	"	"
St. Jean.	"	"	"
St. Famille.	"	"	"
St. François.	"	"	"
Isle Réaux.	"	"	"
Grosse Isle.	"	25-1	"

Lines in Chicoutimi District, including points west of Bersimis.—Local rate between offices within 100 miles apart, 15-1; over 100 miles, 25-1. Between offices on government line and offices on the G. N. W. Company's line as far as and including Quebec, 25-2. Through rate is the above mentioned local rate between government line offices, to connect with the G. N. W. Tel., plus the full charges of the G. N. W. Tel. Co., for points beyond Quebec.

Line from Bersimis to Chateau Bay, with branch to Anticosti from Long Point of Mingan.—Local rate between offices within 100 miles apart, 15-1; over 100 miles, 25-1; on mainland and Anticosti, 50-2. These same rates apply to government line offices east and west of Bersimis.

The checking of all through business exchanged with the G. N. W. Tel. Co. is done with Quebec.

ONTARIO.

Line from Leamington to Pelee Island (Telephone Circuit).—Local rates between Leamington and Point Pelee, 15-1; mainland and Island offices, 25-1; offices on the Island, 15-1 (8 offices).

Gun Club House, mainland.	15-1 (through business) from Leamington, G. N. W.		
Point Pelee, mainland.	"	"	"
Leamington Dock.	"	"	"
Bairds.	"	"	"
North Pt. Lt. House, Pelee Id.	"	"	"
North Dock, Pelee Island.	"	"	"
McIntyre's Corners.	"	"	"
West Dock, Pelee Island.	"	"	"
South Dock.	"	"	"

NORTHWEST TERRITORIES.

Line from Qu'Appelle (C.P.R. Sta.) to Edmonton, Alberta.—Local rates, 15-1, 25-2, 50-3, for distances 10 to 600 miles (13 offices.)

Fort Qu'Appelle.	25-2 Qu'Appelle or Saskatoon.	
Touchwood.	"	"
Saskatoon.	"	"
Saskatoon (T's. office C.P.R. Tel.)..	"	"
Henrietta.	"	"
Battleford.	"	"

7-8 EDWARD VII., A. 1908

Bresaylor..	25-2	Saskatoon; 50-3	Qu'Appelle or Edmonton.
Onion Lake..	"	"	"
Moose..	"	"	"
St. Paul de Métis..	50-3	Saskatoon,	Qu'Appelle or Edmonton.
Saddle Lake..	"	"	"
Victoria..	25-2	Edmonton; 50-3	Qu'Appelle or Saskatoon.
Andrew..	"	"	"
Star..	"	"	"
Fort Saskatchewan..	"	"	"
Edmonton (Transfer office C.P.R. Tel.)..	"	"	"
Athabasca Landing..	"	"	"

Line from Moosejaw (C. P. Stn.) to Wood Mountain—Local rates, 25-2 (1 office).

Wood Mountain..25-2 from Moosejaw.

BRITISH COLUMBIA.

Line from Victoria to Cape Beale—Local rate, 50-3 (6 offices).

Sooke..	50-3	from Victoria C. P. R. Tel. office.
Otter Point..	"	"
Jordan River..	"	"
Port San Juan..	"	"
Carmanah Lt. House..	"	"
Cape Beale..	"	"

Line from Nanaimo to Comox—Local rate, 25-2 (9 offices).

Wellington (C.P.R. & E. & N. Ry.)..	25-2	from Nanaimo
Parksville..	"	or Wellington.
Fanny Bay..	"	"
Cumberland..	"	"
Union Bay..	"	"
Union Mines..	"	"
Courtney..	"	"
Comox..	"	"
Alberni (branch)..	"	"

Line from Alberni to Cape Beale—Local rate, 50-3.

Between offices on the Victoria-Cape Beale line and the Nanaimo-Comox line, via Alberni, 50-3.

Line from Golden to Windermere—Local rate, 25-2 (3 offices).

1. Athalmer..	25-2	from Golden (C. P. Ry.).
2. Wilmer..	"	"
3. Windermere..	"	"

Line from Kamloops to Lower Nicola (Telephone) (16 offices).

Connections are leased and lessees allowed commission on messages of non-subscribers. Tariff, 25-2 local from Kamloops, and for conversations, 25 cents for five minutes, half that rate for each additional five minutes or fraction thereof.

SESSIONAL PAPER No. 19

Yukon System.

Tariff rates for the Yukon lines are given in the table of staff, &c., in the foregoing pages.

SUMMARY.

Offices on government line, as listed..	327
Offices at transfer points with connecting lines..	16
	<hr/>
Total number embraced by the service..	343

APPENDICES

GOVERNMENT TELEGRAPH SERVICE

ANNUAL REPORT FOR 1906-7.

- Sectional reference
- (1) Cape Breton lines.
 - (2) Anticosti Island lines.
 - (3) Bay of Fundy lines.
 - (4) North Shore, St. Lawrence and Chicoutimi.
 - (5) Quarantine Telegraph system.
 - (6) Pelee Island system.
 - (7) Northwest lines.
 - (8) British Columbia lines.
 - (9) Kamloops-Penticton lines.
 - (10) Yukon telegraphs.
 - (11) Report of Inspector, Yukon telegraphs.
 - (12) Cable ship *Tyrian*.

REPORT No. 1.

ST. JOHN, N.B., October 11, 1907.

D. H. KEELEY, Esq.,

General Superintendent, Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg to submit the following report upon the Government telegraph lines in Cape Breton, for the year ended March 31, 1907.—

	Miles in Operation.	No. of Offices.	No. of Operators.	No. Reprs. and Linemen.
Meat Cove	176 $\frac{3}{4}$	18	18	7
Mabou-Meat Cove	109	8	8	11
Mabou-Hawkesbury and North Sydney	202 $\frac{1}{4}$	16	16	3
Boularderie-Eskasoni	92	15	15	6
St. Paul	3	1	1	.....
	583 $\frac{1}{2}$	58	58	27

The line between Meat Cove and Ingonish is in bad condition. The poles, which are of native wood, are so weak that it becomes necessary to renew that section entire. It is also necessary to strengthen the section between North Sydney and Bras d'Or, with a proportion of new poles. The remaining lines are reported in fair condition, merely requiring the usual general repairs, consisting of resetting and straightening the poles, trimming trees, renewing insulators, &c.

Tenders have been given out for new poles for the section first named, and it is expected the work will be taken in hand before winter sets in.

The cable crossing the Big Bras d'Or, which failed February 28, was restored April 18. During this interruption business for points on the Meat Cove line, north of Englishtown, was relayed via Hawkesbury.

CONSTRUCTION OF NEW LINES.

The new line constructed last year on Boularderie Island was extended into North Sydney, on the poles of the Meat Cove line; distance six miles. This line, together with that from North Sydney to Castle Bay, Eskasoni, has been opened up for traffic during the present year, adding some 72 miles of line and 13 offices to the Cape Breton system.

NEW OFFICES AND OFFICE CHANGES.

The repeating station for the Magdalen Islands and St. Paul's was removed from Meat Cove to Bay St. Lawrence, September 1, 1906. On May 1, 1907, Mr. Vilbon Theriault was appointed to the charge of this station, Mrs. M. J. McNeil retiring.

The station at Meat Cove remained closed until May 18, 1907, when it was reopened as a local office, with Miss E. Dawson in charge as operator, at \$50 per annum or commission.

7-8 EDWARD VII., A. 1908

CHETICAMP LINES.

Strathlorne office was closed January 13, 1907. At Inverness, Miss Agnes A. Gillis, agent-operator (50 per cent of receipts and checks), retired March 17, and Miss Helen C. McLean was appointed to this station temporarily, receiving the total receipts and checks. No permanent appointment has, up to the present, been made.

BOULARDERIE LINE.

1906.—New offices were opened as follows, viz.:—

Little Bras d'Or, December 1, in charge of Edna Grantmyer, agent-operator.

Alder Point, December 1, in charge of Mrs. J. Arsenault, agent-operator.

Groves Point, December 1, in charge of Mary Dunlap, agent-operator.

Point Clear, December 1, in charge of Mrs. M. McLeod, agent-operator.

S. Side Boularderie, January 1, 1907, in charge of Donald McRae, agent-operator.

Boularderie West, January 1, 1907, in charge of John McIntyre, agent-operator.

Hillside, February 1, 1907, in charge of Christina McKenzie, agent-operator.

ESKASONI LINE.

French Vale, opened February 14, 1907, Jas. J. McLean, agent-operator.

Gillis Lake, opened February 12, 1907, D. H. Gillis, agent-operator.

East Bay, opened February 13, 1907, M. L. McNeil, agent-operator.

N. Side East Bay, opened February 15, 1907, Jas. J. Gillis, agent-operator.

Castle Bay, January, 1907, Maria McDonald, agent-operator.

All on a basis of \$50 per annum or commission.

A new office was also opened at St. Esprit, on the North Sydney-Port Hawkesbury section, September 1, 1906, Mrs. John D. Morrison, agent-operator. \$50 per annum or commission.

LOCAL REPAIR SECTIONS.

Appointments of local linemen were made dating from June 1, 1907, at \$50 per year each, as under:—

Alder Point Loop, from Little Bras d'Or—Capt. John Arsenault, Alder Point.

Big Bras d'Or—Upper Kempt Head—J. A. C. McKenzie, Boularderie Centre.

Little Bras d'Or—Upper Kempt Head—R. R. McKenzie, Councillor, South Side Boularderie.

North Sydney—Gillis Lake—Angus J. McLean, McLeaville.

Gillis Lake—Eskasoni—Duncan Gillis, North Side East Bay.

A detailed statement of offices, employees and pay lists as at June 30, 1907, is attached.

Respectfully submitted,

D. C. DAWSON,

Superintendent.

SESSIONAL PAPER No. 19

REPORT No. 2.

WEST POINT, ANTICOSTI, July 10, 1907.

D. H. KEELEY, Esq.,
General Superintendent, Government Telegraph Service,
Ottawa.

SIR,—I beg leave to submit herewith my report on the Government telegraph service under my charge for the past eight months, viz., from November 1, 1906, up to June 30, 1907, as requested by your telegram of the 9th instant.

I am pleased to state that our line is in good working order on its whole length, and when the general repairs now proceeding are finished, the line will be in perfect order.

We have 230 miles of line in operation, which on its whole extent is very hard to keep in good order, exposed as it is to heavy winds, ice and bushes. The repairs are also hard to make owing to want of roads. The travelling (always on foot) is very bad, and made worse and most dangerous by the many rivers that repairers have to cross. Therefore, repairs are generally costly.

As new wire had been put on the whole length of our line two years ago, there was no expense made for reconstruction of line. Likewise no expense on improvements nor for the building or repairing of camps, which were all repaired and renewed last season.

Maintenance of the line during the past eight months amounts to \$237.48, but this comprises the painting of government houses and boats, landing and carting of general supplies, freight of same, postage, travelling expenses of substitute operator when service requires him, riggings for general repairer's boat, and all the repairs on the line made by local repairers. As the general repairs are not yet finished, I cannot include amount here, but as a rule they generally cost from \$225 to \$240.

I will here beg leave to suggest that the telegraph poles from English Bay down to North Shore cable should be renewed, as they are in a decayed state (they are spruce poles), and a number break down at every breeze. This reconstruction could be done next season, and spruce poles could be had here on the island at a reasonable figure, I think. Cedar poles would be preferable of course.

We are also in want of several canoes for the rivers, and they could be built here this season if you authorize me to have them.

The whole humbly submitted.

I have the honour to be, sir,

Your obedient servant,

ALF. MALOUIN.

7-8 EDWARD VII., A. 1908

REPORT No. 3.

NORTH HEAD, N.B., October 12, 1907.

D. H. KEELEY, Esq.,
General Superintendent, Government Telegraph Service,
Ottawa.

DEAR SIR,—Complying with your telegram, am sending the following report on the condition of the telegraph lines in this district, for the last year.

Toward the latter part of February last, the cable suddenly gave out, and communication was entirely interrupted until May 24, 1907, when it was again restored by the under-running of a new cable from Long Eddy, up to within half a mile of the cable landing at Herring Cove, on Campobello, where the new cable not being of sufficient length to reach to shore, was spliced to the other, which short piece appeared to be in pretty good condition. The break in the old cable was found about half a mile off the Grand Manan shore. With the exception of one or two interruptions, caused by the swinging of other wires, in Eastport, the line has been giving good satisfaction since, and all its land connections are in good condition.

Respecting the lines on Grand Manan, can say that they are in good order. The line from Seal Cove to Southern Head has been working poorly this spring, a faulty connection in the midway station at Deep Cove being the cause.

The White Head telephone line, too, had not been giving perfect satisfaction. I went over that line in September, making a few slight changes in the manner of connections which had formerly been made outside the cable boxes, where being exposed to the weather they became corroded, so that in a short time they were rendered worthless.

During October, November and December, the Grand Manan line worked very badly, owing to trouble caused by the Telephone Company putting their wires on our poles; but have had good service since.

The Grand Manan Telephone Company obtained permission from the department to place their wires on our poles, and while the work was going on, they threw our wires from the insulators and caused a great deal of trouble and inconvenience.

There has been no change in the staff, and everything seems in a satisfactory condition. No new construction and not much extra work done.

Yours very truly,

CLARA C. SEELY,

District Superintendent.

SESSIONAL PAPER No. 19

REPORT No. 4.

CHICOUTIMI OFFICE.

Report of the district superintendent from Quebec to Bersimis, in the counties of Quebec, Montmorency, Charlevoix, Chicoutimi, and part of Saguenay to Bersimis, for the nine months ending March 31, 1907.

Line No. 13.—From Quebec to Labrador. As special report No. 1, 1905-6.

Lines 13 and 21; Line No. 21.—Double line from Malbaie to Ste. Catherine, 35 miles. Same as report No. 1, except that the Sault au Mouton's office was completed for operations.

Line No. 40.—From Baie St. Paul to Chicoutimi, 85 miles. Same as report No. 1, except that Mrs. C. Levesque, of St. Alphonse, whose salary was increased from \$50 to \$150; operator D. Villeneuve was also increased by \$120, from \$480 to \$600.

Line No. 39.—From St. Catherine to Chicoutimi, 83 miles. Same as report No. 1, except that at Chicoutimi's office two new operators were appointed, for day and the other for night work.

Line No. 41.—From Malbaie to St. Agnes, 12 miles. Same as report No. 1, except that at Guay instead of operator S. Bouchard it is Jos. Demeules.

Line No. 44.—From Baie St. Paul to Petite Rivière St. Frs. Xavier. Same as report No. 1.

Line No. 45.—From Ste. Anne to Lac Clair, 10 miles. Same as report No. 1, 1905-6.

Line No. 42.—From Chicoutimi to St. Charles Borromée, 18 miles, with two loop lines, Shipshaw North, 2 miles, and St. Ambroise, 4 miles. Same as report No. 1, 1905-6, except at Chicoutimi, G. N. D. Villeneuve, \$600, instead of \$480.

Line No. 50.—From Tadousac to Chicoutimi, 82 miles. Same as report No. 1, salary of operator Villeneuve to change from \$480 to \$600.

As to line repairers, there is no change from report No. 1, 1905-6.

The construction of a line from Baie St. Paul to Murray Bay by St. Hilarion:

Amount expended.	\$1,048 26
Paid for right of way for our line in the municipality of Canton Tremblay.	300 00
Services of the notary.	25 00

Construction of a building at Bersimis—

Contract.	3,025 00
Extra work.	434 00
Repairs were made to St. Félix d'Otis' bridge.	199 96
Materials were bought to repair the Sault au Mouton bridge.	306 00
The construction of a camp at Islet a Jérémie, North Shore.	210 24
Two camps were built between La Descente des Femmes to Sacré Cœur.	28 50
A sum of \$401.94 was expended between St. Alphonse and Chicoutimi in view of improving the line.	401 94
The amount of \$151.12 was expended in pulling down the telephone line on the Ste. Agnes line.	151 12

7-8 EDWARD VII., A. 1908

A sum of \$86.50 was paid to Mr. Eug. Caron, of Tadousac, for repeating the messages and care of battery from February 1, 1906, to January 31, 1907. Mr. Caron is now on the regular pay-roll.		\$ 86 50
The roadway between Baie St. Paul and St. Alexis was repaired. A sum of \$801.92 was expended.		801 92
North Shore repairs to roadway—		
West of Esquimaux.	\$297 50	
East of Esquimaux.	402 50	
St. Firmin.	199 97	
Seven Islands.	301 50	
Making a total of.		1,201 47
An account of \$62.49 was sent to Ottawa for Mr. P. Guay's services at Ber-simis from May 1 to June 15, 1907.		62 49
A sum of \$447.07 was expended for the construction of a line from Baie St. Paul village to the wharf to connect with the cable to Isles aux Coudres.		447 07
Paid to Diver Fortin for services.		37 00
The sum of \$573.99 was expended in connection with the line from Ber-geronnes westward with the line going southward from Sacré Cœur to Tadousac.		573 99
Paid for general repairs in connection with the maintenance of the line between Portneuf and Escoumains, and also at Pointe au Bouleau. . . .		377 44
Materials bought for maintenance—		
One set of repeaters for Chicoutimi's office.		64 65
Sulphate of copper.		220 50
Making a total sum of.		\$15,988 13

I have the honour to be, sir,

Your obedient servant,

J. C. TACHE.

REPORT No. 5.

ST. JEAN, P.Q., October 9, 1907.

D. H. KEELEY, Esq.,

General Superintendent, Government Telegraph Service,
Ottawa.

SIR,—I beg to submit the report of the operations of the land and cable lines under my charge, for the fiscal year ended March 31, 1907.

These lines cover a distance of 39 miles, from St. Pierre, I.O., to the Quarantine, at Grosse Isle, including the loop from St. Jean to Ste. Famille, with an extension (loop) four miles in length from the village of St. François northward, including Mr. Pierre Labbe's office, a telephone cable of 3½ knots from Crane Island to Montmagny, and a telegraph cable of 30 knots from St. François to Baie St. Paul.

On account of the extraordinary cold weather during the winter of 1906-7, all the submarine cables under my control have been broken by the ice. There were interruptions of the cable lines, as follows:—St. François and l'Île aux Reaux, January, 1907; Baie St. Paul, February, 1907; Crane Island, December, 1906; Île aux Coudres, December, 1906. In May last repairs were made as soon as possible to the Quarantine

SESSIONAL PAPER No. 19

cables, the work being done with great difficulty on account of the frequent heavy easterly gales during that month.

I would suggest that huts should be constructed at the cable landings, at L'Ange Gardien and St. Pierre, I.O. Those huts would be convenient during the testing of the cables, and also would be a good shelter from bad weather for the repairers, who could thus dispense with boats and save expense.

As in previous years, a large number of poles were broken flush with the ground, but those poles have been replaced. The telegraph wires from St. Laurent to St. Pierre, owing to too much slack, were causing trouble to the telephone service, therefore in June, I started the re-installation of those wires in such a way that they could not interfere with the telephone wires.

In view of the considerable length of the cable lines from the Saguenay river to Quebec, it is an absolute necessity for the department to provide a good steamer of convenient dimensions for exclusive service for cable work. Such a boat would prevent all delay in repairing the cables in this section.

It is also very convenient to have on hand a sufficient stock of material, and therefore I would ask you to be kind enough to supply my office with a general stock of materials needed for the repair of the telegraph and cable lines.

I have the honour to be, sir,

Your obedient servant,

J. P. POULIOT,

District Superintendent.

REPORT No. 6.

LEAMINGTON, ONT., July 30, 1907.

D. H. KEELEY, Esq.,

General Superintendent, Government Telegraph Service,
Ottawa.

DEAR SIR,—In the matter of the Pelee Island Telephone System, I beg to report as follows:—

Cable communication was interrupted on September 29, and restored on October 15, 1906, and again interrupted on June 3, and restored on June 20, 1907. In both instances the damage was slight, and fortunately no additional cable beyond that in use was required for repairs.

There should be at least about half a knot of good new cable on hand here for repairs when required, as the old cable on hand is of very doubtful quality. With the exception of the above interruptions the cable has worked quite satisfactorily during the past year.

The land line on Pelee Island is in good shape and good working order, except a piece about 400 yards in length near the North Point lighthouse, where the beach has been washed out considerably, and some poles were also washed out during the spring storms which struck the island from westerly directions, causing the lake to break over the beach into the marsh east thereof. In April last when the worst damage was done, we repaired as well as we could for rough weather, but did not at that time recapture all the poles that were washed out, and were obliged to temporarily place insulators and wire on tree limbs until repairs could be made later. Since then we have recaptured all the poles, but have been unable, owing to inability to get men, to put them and shift a few others out of the flooded marsh, close by where they are leaning rather heavily, and may make trouble soon.

7-8 EDWARD VII., A. 1908

In June last, according to instructions from the department, we shifted a little over two miles of the line from the southwest part of the island to another location more inland, so as to give a connection at James Scrigley's, a point between the West Dock office and the office at Pelee South,* as soon as an instrument is received for that purpose.

On the mainland, the line is in good working order, but a number of the old poles need to be replaced by new ones, as they are badly rotted and unsafe to climb when making necessary repairs.

As there are additional telephones being asked for both on the island and mainland, I consider it will be in the interest of better service to split the line from Leamington office and putting the island line to the island and mainland line to Point Pelee on separate wires, and avoid overloading, at the same time making it easier to detect whether troubles, when they occur, are on the island or mainland lines. In splitting the line from Leamington towards the lake about 50-4 pin cross arms will be required, together with braces, bolts, pins, insulators and wire necessary for the work.

During May and June last a supply of new poles arrived at Leamington station for use in repairing the mainland line.

I herewith inclose list of offices or stations now in use, operators and agents, commission or salaries, and summary of messages sent and received during last year.

Your obedient servant,

JOHN M^R. SELKIRK,

District Superintendent.

REPORT No. 7.

NORTHWEST TELEGRAPHS.

I beg to herewith report the condition of the line, the expenditure of moneys for construction, and the change of the personnel of the staff, during the past twelve months.

The line has been kept in fairly good working order during the past year, but will require a considerable expenditure to put it in good condition, estimates for which will be forwarded.

Last summer it was late when we began pole renewals, and it was with difficulty that we were able to put it in shape for the winter season.

There were several places where the line had to be removed from farm lands to the roadway. In this regard we had the most urgent cases attended to; which were a portion of the line between Qu'Appelle and Fort Qu'Appelle; a short distance on the Lloydminster loop; a piece between Star and Fort Saskatchewan, and a few miles on the Wood Mountain division. There are still a number of places where the line runs through farm lands, and which will, from time to time, have to be moved to the highway.

The whole of this country is settling up rapidly, and farmers are inclosing parts of our line in their fields.

From Station to Station.

Line from Qu'Appelle to Fort Qu'Appelle, 17 miles, is in good working order; but there is a considerable portion of it running through farms, which will have to be moved to the road allowance. Some work in this connection was done on this part of the line during the year, but as it was late in the season when we got started the

SESSIONAL PAPER No. 19

work could not be completed. The office at Fort Qu'Appelle is in a building owned by the department. It was built some twenty-four years ago, and is falling to pieces and past repair.

From Fort Qu'Appelle to Lipton, 11 miles. The first four miles the poles are in bad shape and want renewing; the next seven miles the line is in fairly good condition. The office at Lipton is in the Canadian Pacific Railway station, and our wire is operated by them on commission.

From Lipton to Kutawa, 44 miles. The line has suffered severely this spring from lightning and prairie fires, and will require a considerable number of new poles. Lightning storms have been particularly severe all through the Northwest this spring. The office at Kutawa is rented from A. V. Lindeburgh.

The office at Touchwood, six miles east of Kutawa, which was operated at the expense of the Hudson's Bay Company, was closed on June 1, 1907.

From Kutawa to South Humboldt, 78 miles, has been kept in working order with a great deal of difficulty owing to the extremely hard winter as well as lightning and prairie fires. Here again we will require a number of new poles. The office building at South Humboldt was built by the department two years ago, and excepting that it requires painting to preserve it, is in good repair.

From South Humboldt to Saskatoon, a distance of 69 miles, the same conditions prevail as east of Humboldt. The office at Saskatoon is in the Canadian Pacific Railway Company's office, and our wire is operated by them.

From Saskatoon to Warman, 14 miles, our wire is in first class condition. At Warman our office is in the Canadian Northern Railway station, and our wire operated by their people on commission.

From Warman to Henrietta, 38 miles, the line runs through a prairie country. On this part also the lightning and prairie fires have done considerable damage, and a number of new poles will be required to put it in good shape for the coming winter. The office at Henrietta is rented from W. J. Salsbury.

From Henrietta to Battleford, 57 miles, the line runs through timber and prairie. This part of the line is in need of an overhauling and a number of new poles. The building formerly used as an office at Battleford was in such a state of decay that it had to be discarded. We at present occupy a building rented from Tom Dewan.

From Battleford to Bresaylor, 25 miles. Here we have the iron poles, and we have little or no trouble on this beat. Our office at this point is in a building rented from W. Sayers.

From Bresaylor to Lloydminster, 70 miles. The first 48 miles of this part of the line is also of iron poles, and we experience but little trouble on it. The next 22 miles is a loop built from the main line. It was put up in the winter three years ago with poplar poles. These poles are rotting fast and trouble on this loop is frequent. This loop should be rebuilt with tamarack poles; or if iron poles could be secured they would be much better. The office building at Lloydminster is owned by the department.

From Lloydminster to Onion Lake, 50 miles. The first 22 miles is the loop, and the same conditions apply. The next 28 miles is in very good order. The high water this spring in the Saskatchewan river at old Fort Pitt carried away our wire at the crossing of the river, and it was several days before we could get the new wire strung. We now have a new mast here as well as new wire, and I do not anticipate any further trouble at this point for some time to come. The office at Onion Lake is in our own building. It is in good condition, but would be much improved by painting.

From Onion Lake to Moose, 37 miles, the line is in good working order, but runs through a very rough country, being swamps and timber all the way. New roads are constantly being made, which leaves the line isolated and difficult to follow. The office here is in an old log building and very much dilapidated. It is owned by the department.

From Moose to St. Paul des Metis, 32 miles. This part of the line runs through swamps, timber and patches of prairie. Our chief trouble through these sections is

7-8 EDWARD VII., A. 1908

bush fires, but the line has been kept in fairly good working order. The office at St. Paul des Metis is in the Roman Catholic Mission building.

From St. Paul des Metis to Saddle Lake, 18 miles, the line runs through a similar country, and the same conditions apply as between Moose and St. Paul des Metis. The office building at Saddle Lake is owned by the department, and is in a dilapidated condition.

A telephone line from here to Sacred Heart Mission, six miles, is in good order.

From Saddle Lake to Victoria, 37 miles, the line runs through scrub timber, sand hills and jackpine, and is in good order. Our chief trouble on this part of the line is caused by trees falling on the wire. The office at Victoria is in a new building erected by the department last year, and is in good condition.

From Victoria to Andrew, 10 miles. Wire crosses the Saskatchewan river, and runs through scrub timber and prairie. The line is in good working order. The office at Andrew is in Mr. E. Carey's store.

A telephone line runs from here to Whitford, six miles. It is in good condition, and working well.

From Andrew to Star, 18 miles, the line is in good working order. The office at Star is rented from E. A. Holmes.

From Star to Fort Saskatchewan, 25 miles. This part of the line has all been rebuilt during the last two years, and is in first class order. The office at Fort Saskatchewan is rented from S. A. Hanson, and is centrally located.

From Fort Saskatchewan to Edmonton, 18 miles. Line crosses the Saskatchewan river, and continues on the north side of the river to Edmonton. This part of the line is comparatively new, and is in perfect order. Our office at Edmonton has lately been moved into the Canadian Pacific Railway Telegraphs office.

From Edmonton to Athabasca Landing, 98 miles. The line runs through prairie, scrub timber and jackpine. On this section we are bothered with falling timber and prairie fires. The line has been kept in remarkably good working order considering the long stretch, interruptions being very rare.

The several telephone lines from Edmonton are all reported in good working order. This year we built about three miles of telephone line to connect Stony Plain railway station with the line which connects at Edmonton. It is working well. The poles for this extension were supplied by the people residing there.

Wood Mountain Section.

From Moosejaw to Wood Mountain, 90 miles. The first 10 miles is new line; the next 80 is very old and hard to keep in repair. This line is very subject to lightning storms, which are reported more severe than in any other part of the country. Every summer a large number of poles are destroyed. Very often during a severe storm, six or seven consecutive poles will be completely demolished, and this probably occurs at several points. Along a portion of the route, cattle are grazing, and these rubbing against the poles invariably push down any that become weak. Lineman Brown is on the line all the time, but finds it very hard to prevent serious delay to business. Some work was done on this part of the line during the year, in the way of renewing poles, but it will be necessary to have the line thoroughly overhauled to put it in good working order. This is a treeless district, and if iron poles could be secured for this line it would, I feel sure, be most beneficial.

Wood Mountain to Willow Bunch, 40 miles. The line is nearly new, and in excellent condition. Tamarack poles were used in the building of this line, and they are not easily destroyed by prairie fires; lightning, however, causes trouble occasionally. The office at this point is in a new building erected by the department two years ago. It is in good order, but badly in need of painting.

SESSIONAL PAPER No. 19

Batoche Division.

The line from Duck Lake to Batoche, nine miles, is in good working order; as also the telephone line from Duck Lake to the Indian Agency.

ROBT. C. MACDONALD,
District Superintendent.

REPORT No. 8.

DEPARTMENT OF PUBLIC WORKS OFFICE,
GOVERNMENT TELEGRAPH SERVICE,
VICTORIA, B.C., August 1, 1907.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa.

SIR,—As per instructions contained in your telegram of the 8th ultimo, I have the honour to herewith submit a report on the Government telegraph and telephone lines on Vancouver Island, B.C., and the Golden and Windermere line in East Kootenay, under my charge, for 1906-7.

Name of Line.	Miles in Operation.	No. of Offices.	No. of Operators.	No. of Repres. and Linemen.
*Victoria and Cape Beale	118	6	6	5
Alberni and Cape Beale	57	2	2	C. P. R. Lineman.
Alberni and Clayoquot	86 ³ / ₁₆	7	6	5
Nanaimo and Comox	90	10	10	2
†Parksville and Alberni branch.....	30			C. P. R. maintain P. & A. branch.
Van. Isd. and Salt. Spg. Isd. Telephone line	26	5	5	Repairs done by agents as occasions requires.
‡Golden and Windermere	90	4	4	2

* Mr. E. Gordon agent at Otter Point acts as Line Repr. also. † Mrs. Williams operator at Parks ville is also operator for the Alberni branch. ‡ Thirteen phone subscribers.

Victoria and Cape Beale Line.

In addition to the regular telegraph offices, there are 'phones supplied to the following parties, &c.: Sooke wharf, Capt. Rucker's residence, Rucker's cannery, Jordan Milling Company, Bell Irving cannery, Line Repairers' hut, Jordan River. During the winter 'phones were installed at Tsusiat and Seven Mile River huts for the use of the patrol men employed by the Marine and Fisheries Department, also 'phone installed at the new lighthouse, Pachena Point, the wire having been run from the mainland considerable distance to give the required connection; also a new trail cut to enable the wire to be strung.

There is at present under construction by the Marine and Fisheries Department a new trail for pack-horses in connection with Life-saving and Aids to Navigation between Bamfield and Carmanah, and when completed the telegraph line should be placed upon it, making it much easier to keep in repair, and saving considerable time

7-8 EDWARD VII., A. 1908

in getting the line working in case of a break by reason of the much better travelling than by the present trail.

When this is done it will still be necessary to improve the trail on the sections east of Carmanah lighthouse for the proper working of the line; also to increase the staff of linemen and salaries of same, and put in force the recommendations contained in my recent reports.

Alberni and Cape Beale Telegraph Line.

This line is maintained by the Canadian Pacific Railway Company, and is often down for a week or ten days and longer at a time. By courtesy of the Canadian Pacific Railway office at Bamfield, messages are then sent or received by cable when not otherwise busy with cable business.

Alberni to Clayoquot.

This line has been working very well, with few interruptions, although constructed through a very rough country. Mr. E. S. Reeve, operator and line repairer at Clayoquot, resigned, and Mr. E. B. Garrard, operator and line repairer at Uchucklesit, was transferred to Clayoquot, Mr. Frank Tyler being appointed to the latter's place as line repairer and telephone agent. A branch line was constructed from a point on the main line near Effingham Inlet to Sechart, a distance of about nine miles. Mr. Hillier, operator and line repairer at Toquart, appointed line repairer on this branch, at a salary of \$10 per month.

Nanaimo and Comox Telegraph Line.

Telephone connection has been given Little Qualicum and Nanoose Bay; the phones have been installed at the residence of Mrs. M. E. Crump, at Little Qualicum, with Mrs. Crump as agent, and in the Arlington Hotel, at Nanoose Bay, with Mr. P. L. Good as agent. This has been of great convenience to travellers and settlers in the neighbourhood. Telephones have also been installed at Nanaimo, Parksville, Union Bay and Cumberland offices.

For some time past very considerable trouble has been experienced in getting the operator at Nanaimo to adjust errors between his office and the other offices on this line, and the Alberni-Clayoquot line in consequence. Revenue statements have not been forwarded to the accountant for months after the usual time, the operator claiming that he was too busy; although Mr. Wilson, Superintendent Canadian Pacific Railway Telegraph, gave his additional assistance, of which I apprised you by letter of June 22 that the department was to be charged with the cost of same; the service has been no better. As I repeatedly recommended, the only solution of the difficulty is to have our own operator in our own office.

Vancouver Island and Salt Spring Island Telephone Line.

This line is in good working order, and gives every satisfaction to the settlers along its route.

Golden and Windermere.

This is a combined telephone and telegraph line, and considerable trouble has been met with upon this line recently owing to lack of knowledge on the part of the operators, line repairers and subscribers in connection therewith. I have just made a trip of inspection over it in company with Mr. J. S. Macdonald, General Inspector of Government Telegraphs, and a practical telephone and telegraph expert, and put every telephone and telegraph instrument in first class working order. The line is now working in perfect order. I found the line itself in fairly good condition, but in

SESSIONAL PAPER No. 19

various places where the soil was sandy the poles are rotted off at ground level. I have instructed Mr. V. F. Dunn, our line repairer, to procure assistance and have the most dangerous poles reset, and also to cut out all alder and poplar brush along the line. Several of the poles at various points have been destroyed by lightning, and those I have had replaced by new poles. The following subscribers for 'phones beginning at Golden:—

W. Wright, at Wright's,	6 miles from Golden.
T. R. Haddon, at McMurdo,	13 "
W. Johnston, at Nelson Creek,	18 "
T. Bingham, at Wapta,	20 "
A. Soles, at Hog Ranch,	23 "
Wm. Barry, at Spillimacheen,	41 "
H. Atchison, at Brisco,	50 "
B. Ashton, at Vermilion,	56 "
J. L. McKay, at Sinclair,	66 "
Columbia River L. Co., at Athahner,	79 "
J. J. Lake, at Athahner,	79 "
R. R. Bruce, at Wilmer,	82 "
Mr. Gallop, at Canterbury,	82 "

'Phones are also installed in our offices at Golden, Spillimacheen, Wilmer and Windermere.

I have the honour to be, sir,

Your obedient servant,

WM. HENDERSON,

Resident Architect.

7-8 EDWARD VII., A. 1908

REPORT No. 9.

SUMMERLAND, B.C., July 10, 1907.

D. H. KEELEY, Esq.,

General Superintendent, Government Telegraph Service,
Ottawa.

DEAR SIR,—Hereunder please find report of work done, staff changes, offices established and tariff in operation, in compliance with your request by telegram of the 8th instant.

Considerable construction work was done prior to July 1, 1906, which owing to the departmental books being closed early in April and no funds available, vouchers covering the expenditure were not issued until after July 1, and in consequence has not been heretofore reported. These cover the construction of forty-five miles of line between Penticton and Kelowna, including one mile of cable crossing Okanagan lake at Kelowna, and completing the circuit, making a continuous line from Kamloops to Vernon.

On October 9, 1906, I was notified of an appropriation of \$5,500 to place poles where trees are now used between Nicola and Penticton. I immediately began work, continuing until forced to suspend on account of winter setting in. Work was again resumed on June 1, and will be complete in approximately three or four weeks. Great difficulty has been experienced in keeping line open, in consequence of which maintenance account is abnormally high.

By way of comparison, I might mention that the section above referred to has during the past year, cost an average of \$4 per mile for line repairs alone, while the section built between Penticton and Kelowna, where poles were used exclusively, has cost but 50 cents per mile.

STAFF CHANGES.

The following changes in staff have taken place during the year:—

Agency, Kamloops.—L. A. Palmer appointed to succeed C. S. Stevens.

Agency, Princeton.—B. S. Kennedy to succeed the A. E. Howse Comapny, resigned.

Agency, Bradshaws.—Closed; agent not choosing to work under new rules.

Agency, Okanagan Falls.—W. B. Hine to succeed J. D. Snodgrass, dead.

Agency, Penticton.—J. A. Schubert to succeed J. W. S. Logie, resigned.

NEW OFFICES.

Frasers, Friskens, Petersons, Guichons, Government office Princeton made reporting offices October 1, when 'Dead head' business was cancelled.

Diamond Vale, near Coutlee, with Diamond Vale Coal Company as agents.

Daly.—In order to give better facilities for the business of the Daly Reduction Company, at Hedley, a separate office was opened at their office for their business only, which is being operated without expense to the department.

Okanagan Centre.—A new office in a new town, on the Okanagan lake between Kelowna and Vernon.

SESSIONAL PAPER No. 19

TARIFF IN OPERATION.

When telephone rentals were cancelled and agents paid same rates as general public, the following changes were made in conversation rates:—

OLD RATES.		NEW RATES.	
Messages.	Conversations.	Messages.	Conversations.
Up to 100 mi. 25, 2	5 cts. per min.	Up to 100 mi. 25, 2	10 cts. per min.
100 to 150 " 35, 3	10 "	100 to 150 " 35, 3	15 "
150 to 200 " 40, 3	12 "	150 to 200 " 40, 3	20 "
200 to 300 " 50, 4	15 "	200 to 300 " 50, 4	25 "
Minimum 25	Minimum 25.	Minimum 25	Minimum 15.

The change has been of great benefit in the operation of the line. By raising the rate per minute, and reducing the minimum, patrons now do their business quickly and get off the line.

At the time of change above noted, all agents not on salary, were allowed a commission of twenty per cent on 'receipts and checks.' This line also allowed to make a messenger charge for bringing a party to the telephone for conversation.

All of which is respectfully submitted.

Faithfully yours,

CHAS. S. STEVENS,

Superintendent.

7-8 EDWARD VII., A. 1908

REPORT No. 10.

VANCOUVER, B.C., September 19, 1907.

D. H. KEELEY, Esq.,
General Superintendent, Government Telegraphs,
Ottawa.

SIR,—I respectfully submit herewith my report of the operation of the Yukon telegraphs for the nine months of the fiscal year, July 1, 1906, to March 31, 1907.

MAIN LINE.

Ashcroft to Boundary.

As anticipated in my report of November 16, 1906, a substantial increase is shown in the revenue and number of messages handled, as compared with the same period in 1905-6 at points between Ashcroft and Hazelton. The advent of settlers, prospectors and timber cruisers into this district in anticipation of the early construction of the Grand Trunk Pacific Railway has created a large amount of new business for the line.

On account of the many breaks from falling timber in the district between Hazelton and Telegraph Creek, two repair gangs were sent out last June, one working north from Hazelton, and the other south from Telegraph Creek. The work done by these parties in widening the right of way and falling menacing timber, was very satisfactory, and the interruptions on that section during the past winter were reduced to a minimum. Next season, it is proposed to send a repair gang north from Telegraph Creek to Atlin, as that portion of the line has not been thoroughly overhauled since its construction in 1900, except for the local work done by linemen at the different stations during each year, and as the poles are decaying fast a general repair gang to part repole this section will be necessary; this also applies in part to the section south of Hazelton to Quesnelle, but the upkeep of this portion of the line can be maintained by the regular staff for another year at least.

Between Ashcroft and Quesnelle the line is also in need of repoling, the poles, of native fir, decaying rapidly, and have been reset so often that the greater part of the line in this section will require new poles. An appropriation for this work has been asked for, and if granted, work will be commenced as soon as the season will permit. From Atlin to the Boundary, the usual annual general repairs were made by the regular linemen under the supervision of Line Foreman Couture, of Dawson.

Owing to the Conrad Consolidated Mining Company closing their Mess House at Conrad, the arrangement made with them through the manager, whereby they were to board the operator free of charge to the department, was cancelled by them, and in consequence a telephone system was substituted between Carcross and Conrad, and the office at Conrad placed on a commission basis, twenty-five per cent of our line tolls being allowed the agent, Mr. McLean, for his services. This arrangement has given good satisfaction.

PORT SIMPSON BRANCH.

The revenue and volume of business on this branch also shows a satisfactory increase over the corresponding months of the previous year, and the prospects are bright for a further increase in the coming years.

SESSIONAL PAPER No. 19

Through communication with Port Simpson was maintained throughout the winter months, very few breaks occurring, and the breaks being repaired promptly, very little delay to business was occasioned at any time. Some twelve or fifteen settlers having located in the Kitsunkalum valley, fifteen miles west of Skeena Canyon, a request was made by them to the department for an office at that point, and their petition having been favourably considered, an office will be opened there when navigation permits of men and material being sent in.

The Grand Trunk Pacific having selected Prince Rupert as their Pacific coast terminus, our line should be extended from Aberdeen to that point, to meet the requirements of residents and others having interests at Prince Rupert. The extension would cover about forty miles, and as there are several large canneries along the route, it is proposed to give them telephone connection with the telegraph lines. An appropriation has also been asked for to carry out this work.

LILLOOET BRANCH.

In July, 1906, a small gang was sent over this branch part repoling and doing general repairs. The line is now in good condition. An increase in revenue and messages is also shown on this branch.

HORSE FLY BRANCH.

This line from 150-Mile House to Quesnelle Forks is in good repair. The poles with few exceptions are still in a healthy condition, and interruptions seldom occur. Business here also continues to increase, particularly at Bullion, where the Guggenheim interests are now in control, and extensive development work is being carried on.

BARKERVILLE-QUESNELLE BRANCH.

Ordinary repairs by the local operators (linemen) has sufficed to keep this line in working condition for the past year, but as nearly all the poles have been reset several times, they are now too short to be again reset, and are rapidly decaying. The line will require to be repoled next season, and an appropriation has been requested for this purpose.

I inclose herewith a comparative statement covering the entire system, both main line and branches, showing the increase in revenue and messages at each office, for the nine months of the fiscal year 1906-7.

Yours truly,

J. T. PHELAN,

Acting Superintendent.

7-8 EDWARD VII., A. 1908

COMPARATIVE STATEMENT, Yukon Telegraphs, showing messages and revenue, July 1, 1905 to March 31, 1906 and July 1, 1906 to March 31, 1907, main line and branches.

DAWSON MAIN LINE.

Offices.	1905-1906.				1906-1907.				MESSAGES.				REVENUE.			
	Messages.		Revenue.		Messages.		Revenue.		Increase.		Decrease.		Increase.		Decrease.	
	Sent.	Re- ceived.	\$	cts.	Sent.	Re- ceived.	\$	cts.	Sent.	Re- ceived.	Sent.	Re- ceived.	\$	cts.	\$	cts.
Ashcroft, B.C.	6,769	8,094	9,469	48	7,970	9,897	11,712	59	1,201	1,803	...	...	2,343	11	...	...
Alexandria.	55	64	14	58	104	90	38	25	49	25	...	...	23	68	...	...
Atlin.	999	842	2,506	90	936	892	2,345	82	27	50	...	...	...	...	161	08
Big Salmon, Y.T.	15	3	18	95	52	16	51	10	37	13	...	...	32	15	...	...
Blackwater.	7	7	3	45	9	18	6	67	2	11	...	...	3	22	...	...
Bobtail Lake.	6	6	50	50	12	8	11	30	6	2	...	...	10	80	...	...
Bonaparte.	63	54	25	41	57	42	23	02	...	...	...	...	...	...	2	39
Boundary.	2,586	1,993	2,421	57	2,421	2,216	...	...	...	223	165	...	...	...	...	...
Bulkley Ranch.	114	94	166	45	365	344	494	17	251	250	...	...	327	72	...	...
Burns Lake.	7	5	7	25	25	20	10	45	18	15	...	...	358	01	...	...
Carcross.	382	396	415	30	517	441	773	91	135	45	...	...	...	15	...	...
Centre Cabin.	1	1	...	...	1	2	1	15	...	1	...	...	...	...	...	...
Clinton, B.C.	538	487	250	57	753	738	341	34	195	251	...	...	90	77	...	...
Coffee Creek.	29	28	36	16	69	40	107	96	40	12	...	...	71	80	...	...
Conrad.	202	156	250	90	389	412	674	70	187	256	...	...	423	80	...	...
Dawson.	7,294	7,282	32,187	35	7,171	7,293	32,976	85	...	...	93	79	789	56	...	...
Echo Lake.	4	3	15	09	1	1	...	...	...	...	8	3	...	...	14	84
Eighth Cabin.	...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...
Fifth Cabin.	3	1	1	75	6	4	4	80	3	3	...	...	...	...	1	00
First Cabin.	6	3	4	64	6	5	9	36	...	2	...	...	...	...	3	65
Fort Selkirk.	133	110	137	07	150	101	235	77	17	...	...	...	4	72	...	...
Forty Mile.	434	321	405	25	680	487	764	49	...	166	...	...	98	70	...	...
Fourth Cabin.	2	2	...	...	18	9	19	21	16	7	...	...	359	24	...	...
Fraser Lake.	97	81	105	70	170	153	216	99	73	72	...	...	19	21	...	...
Hazelton.	458	440	869	08	701	785	992	58	383	345	...	...	111	89	...	...
Hoodaliqua.	63	53	32	24	71	43	68	82	...	...	...	...	123	50	...	...
Iskoote.	...	...	...	...	2	...	...	...	8	...	...	...	...	...	...	...
Lower Labarge.	41	31	50	34	29	42	30	45	2	...	...	...	2	16	...	...
Moracetown.	...	...	...	...	16	12	12	22	16	12	...	...	...	...	...	...
Nahlin.	7	6	12	35	6	4	7	28	...	...	1	2	...	...	19	89
Nakina.	2	3	1	00	5	7	5	37	3	4	...	...	...	...	5	07
Ninth Cabin.	2	2	...	...	1	1	...	...	...	...	1	1	...	...	...	...

SESSIONAL PAPER No. 19

	67	49	58 34	49	42	20 87		18	7	37 47
Orillvie.....	189	130	76 92	283	191	118 53	94	61	.....	41 61
150 Mile House.....	505	503	302 14	815	735	493 38	310	232	.....	101 24
Pike River.....	1	1	50	.....	.....	.....	.....	.....	.....	322 00
Quesnelle.....	48	445	335 35	821	807	635 35	343	362	.....	.....
Raspberry Creek.....	1	3	1 63	4	3	50	3	.....	.....	1 13
Second Cabin.....	.....	.....	.....	.....	.....	2 00	1	.....	.....	2 00
Seventh Cabin.....	7	5	5 27	19	12	6 00	12	7	.....	73
Sheslay.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sixth Cabin.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Soda Creek.....	274	228	161 71	376	310	195 72	102	82	.....	34 01
South Bulkley.....	12	12	10 38	15	13	23 15	3	1	.....	11 77
Stewart River.....	60	48	36 40	54	46	95 05	.....	.....	.....	58 65
Stoney Creek.....	26	28	20 58	42	51	39 95	16	23	.....	19 37
Tagish.....	5	3	7 03	14	12	12 44	9	9	.....	5 41
Tantahus.....	122	121	138 30	126	76	70 14	4	.....	.....	.....
Telegraph Creek.....	168	145	463 39	187	165	463 22	19	20	.....	62 16
Third Cabin.....	1	2	.....	2	3	1 03	1	1	.....	17
25 Mile Cabin.....	1,563	1,782	2,316 62	1,718	1,761	3,357 97	155	.....	.....	1 03
Whitehorse.....	58	75	86 24	97	87	105 24	39	12	.....	541 35
Yukon Csg.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19 00
Totals.....	23,756	24,147	51,566 56	27,429	28,348	57,515 58	3,379	4,392	191	6,277 14
										328 12

NOTE.—Boundary office revenue included in Dawson.

SUMMARY.

Increase of Messages Sent.....	3,673
" " Received.....	4,291
" " Revenue.....	\$ 5,949 02

7-8 EDWARD VII., A. 1908

BRANCHES, YUKON TELEGRAPHS.

Offices.	1905-1906.			1906-1907.			MESSAGES.			REVENUE.	
	Messages.		Revenue.	Messages.		Revenue.	Increase.		Decrease.	Increase.	Decrease.
	Sent.	Rec'd.	\$ cts.	Sent.	Rec'd.	\$ cts.	Sent.	Rec'd.	Sent.	Rec'd.	% cts.
<i>Port Simpson Branch.</i>											
Abirdcon	314	311	456 39	710	636	1,006 85	396	325	.....	.....	550 46
Graveyard Pt.	12	6	4 40	46	10	30 82	34	4	.....	.....	26 42
Lorne Ck.	165	69	162 95	113	73	59 25	8	4	.....	.....	58 44
Meamsknish	69	67	25 40	116	108	83 81	47	41	.....	.....	386 56
Pt. Simpson	392	292	805 95	821	681	1,282 51	429	429	.....	.....	36 80
Kitschick	88	66	67 62	165	108	104 42	77	42	.....	.....	2 50
Telegraph Pt.	1	2	98	5	2	3 48	4	.....	.....	.....	.....
Totals	981	773	1,553 69	1,976	1,618	2,571 17	995	845	.....	.....	1,061 18
<i>Horse Fly Branch.</i>											
Bullion	214	189	258 32	649	533	763 15	435	344	.....	.....	504 83
Harpers Camp.	170	119	85 31	180	135	96 41	10	16	.....	.....	11 10
Quesnelle Fks.	259	254	194 57	446	348	276 95	187	114	.....	.....	82 38
Totals	643	512	538 20	1,275	1,016	1,136 51	632	474	.....	.....	598 31
<i>Barkerville Branch.</i>											
Barkerville	505	562	602 96	732	740	741 43	227	178	.....	.....	138 47
Lafontaine	73	56	20 74	68	52	23 13	.....	.....	5	4	2 39
Totals	578	618	623 70	800	792	764 56	227	178	5	4	140 86
<i>Lillooet Branch.</i>											
Lillooet	223	219	143 28	335	345	273 65	112	96	.....	.....	80 37
Pavilion	41	43	21 61	41	42	25 86	.....	.....	.....	1	4 25
Totals	264	262	214 89	376	387	299 51	112	96	.....	1	84 62

SESSIONAL PAPER No. 19

SUMMARY OF BRANCHES.

Port Simpson Branch ...	Increase Messages Sent.....	995	
	" " Received.....	845	
	" Revenue		\$1,017 48
Horsefly Branch.....	Increase Messages Sent.....	632	
	" " Received.....	474	
	" Revenue		598 31
Barkerville Branch.. ...	Increase Messages Sent.....	222	
	" " Received.....	174	
	" Revenue		140 86
Lillooet Branch.....	Increase Messages Sent.....	112	
	" " Received.....	95	
	" Revenue		84 62
Total increase in Revenue.....			\$1,841 27
Total increase Messages sent			1,961
" " received.....			1,588

SUMMARY OF TOTAL INCREASES MAIN LINE AND BRANCHES.

Increase of Messages Sent	5,634
" " Received	5,789
Total " Revenue.....	\$7,790.29

REPORT No. 11.

OFFICE OF THE INSPECTOR, YUKON TELEGRAPHS,
OTTAWA, February 11, 1907.

D. H. KEELEY, Esq.,

General Superintendent, Dominion Government Telegraphs,
Ottawa.

SIR,—I beg leave to transmit herewith my report covering an inspection of the Dominion Government's Yukon telegraphs, from Hazelton, B.C., to Telegraph Creek, B.C., which is in continuation of my previous report published last year.

HAZELTON, B.C.

Hazelton is situated on the left bank of the Skeena river, a short distance above the junction of the Bulkley and Skeena rivers. It stands on an extensive flat, elevated ten or fifteen feet above the river, and at the base of a high terrace which rises very steeply to a height of about 150 feet. Several traders live here. There is a church, a hospital, two hotels, and it is the headquarters of several packers who carry supplies to different adjacent parts of the country. There is also quite an Indian settlement.

The low region about Hazelton seems to be shut in on all sides by high mountain ranges; the highest points probably attain an altitude of from 8,000 to 9,000 feet. To the west and northwest the continuation of these mountains is concealed by a nearer range which lies between the Skeena and Kispiox rivers, the summits of which are at a distance of from six to ten miles from Hazelton, and reach heights estimated at from 5,000 to 6,000 feet. This smaller range runs approximately in a northeasterly and southwesterly direction. To the north and northeast, a massive range from 6,000 to 7,000 feet in height runs north-northwest and south-southeast.

The summer temperature of the region about Hazelton is often high, snow generally falls in October but soon melts, the winter snow not coming until about the first week of December. The climate is very much like our own, with the exception of the winter which, though rather shorter, is more severe.

7-8 EDWARD VII., A. 1908

The Skeena river usually opens for navigation during the last week in April or first week of May.

Following is a statement of the average yearly cost to the department of maintaining the Hazelton office:—

	Salary per Year.	Board allowance.	Total.
	\$ cts.	\$ cts.	\$ cts.
G. M. Swan, manager and operator	1,200 00	365 00	1,565 00
E. R. Cox, night operator.....	1,200 00	365 00	1,565 00
E. E. Charleson, line foreman.....	1,800 00	365 00	2,165 00
J. C. K. Sealy, lineman	900 00	365 00	1,265 00
Rent of office and warehouse, \$40 per month.....			480 00
Board.....			92 00
Wood.....			379 00
Sundries.....			666 78
Total.....			8,177 78

Owing to the long stretch of line from Ashcroft to Hazelton, 536½ miles, and from Hazelton to Atlin, 491 miles, it was necessary to install repeaters at Hazelton, these distances being almost the limit, as, in this country with large and comparatively low resistance wires, it is not customary to operate a circuit over 600 miles in length.

The repeater used on our line is known as the Weiny-Phillips.

Leaving Hazelton, the telegraph line takes a general northerly direction. The country traversed by the line will be described in sections from station to station.

Hazelton to First Cabin, 27·33 miles.

The line repairing from Hazelton to the crossing of the Kispiox river, seven miles, is done by the lineman stationed at Hazelton, J. C. K. Sealy. The upkeep of this section of the line is very easy, as the timber is light, and owing to constant travel by Indians and others the trail is in very good shape. The balance of the work on the distance from the River Kispiox to First Cabin, 20·33 miles, is done by Hugh Taylor, who has a cabin in the Kispiox valley. The line on this stretch from Hazelton to First Cabin is in good condition. Construction was easy.

There are 721 poles from Hazelton to First Cabin.

First Cabin to Second Cabin, 21·7 miles.

H. A. Cullon, operator, \$75 per month and provisions.

H. Taylor, lineman, \$70 per month and provisions.

Cullon takes care of the line from First Cabin to 'half-way' refuge north, and E. Barrett from Second Cabin to 'half-way' south. The upkeep of these sections is rather more difficult owing to the rougher nature of the country and the heavy timber along the right of way.

There are 521 poles from First Cabin to Second Cabin.

Second Cabin to Third Cabin, 18·6 miles.

E. Barrett, operator, \$75 per month and provisions.

Hunter Corner, lineman, \$70 per month and provisions.

The section from Second Cabin to 'half-way' north is covered by H. Corner, lineman at Second Cabin, and the section from Third Cabin to 'half-way' south is

SESSIONAL PAPER No. 19

covered by Charles Martin, the operator at Third Cabin. This stretch from Second to Third Cabin is also in first class condition, although the country is still getting rougher, more mountainous and with heavy timber.

There are 330 tree poles and 110 set poles from Second to Third Cabin.

Third Cabin to Fourth Cabin, 14.86 miles.

Charles Martin, operator and lineman, \$75 per month with provisions.

Charles Martin is a local Indian, and he repairs the line to 'half-way' north, where he is met by F. Charleson, lineman at Fourth Cabin, who repairs from Fourth Cabin to 'half-way' south. Between these cabins is a very high hill or mountain, called Poison mountain, which is very difficult of ascent and descent, with little choice between the two. The country is still very rough and heavily timbered, but in spite of difficulties the line is kept up very well.

There are 252 tree poles and 111 set poles on this stretch.

Fourth Cabin to Fifth Cabin, 15.97 miles.

W. Toneri, operator, \$75 per month and provisions.

F. Charleson, lineman, \$70 per month and provisions.

W. Toneri repairs to 'half-way' north, where he is met by Lineman Loucks, from Fifth Cabin, who repairs from Fifth Cabin to 'half-way' south. The country in the immediate vicinity of Fourth Cabin is much better, being flatter and the timber lighter, but about four miles north from Fourth Cabin the line ascends and crosses Babiche hill, which has ever been a source of trouble during the winter season. The line work and right of way clearing is very well done and the line kept in good shape.

There are 393 tree poles and 47 set poles on this stretch.

Fifth Cabin to Sixth Cabin, 16.69 miles.

E. A. Hawley, operator, \$100 per month with provisions.

C. E. Loucks, lineman, \$3 per day with provisions.

Fifth Cabin is a relay office where, when the line is down on either side, messages are received and forwarded as soon as the line comes up. Mr. Hawley is an expert operator, and one of our best men.

C. E. Loucks, the lineman, is also a good man, and one of the hardest worked on the line. He repairs from Fifth Cabin to 'half-way' north, where he is met by the lineman from Sixth Cabin. The country is very rough and heavily timbered.

There are 408 tree poles and 44 set poles on this stretch.

Sixth Cabin to Seventh Cabin, 19.90 miles.

G. T. Brown, operator, \$100 per month with provisions.

W. Ross, lineman, \$3 per day with provisions.

G. T. Brown covers from Sixth Cabin to 'half-way' north, where he is met by the lineman from Seventh Cabin.

The north beat from Sixth Cabin is in very bad shape. Right of way is very narrow, and has evidently not been cleared since construction.

There are 618 tree poles and 30 set poles on this stretch.

Seventh Cabin to Eighth Cabin, 18.83 miles.

P. Burnell, operator, \$100 per month and provisions.

L. Loiselle, lineman, \$3 per day and provisions.

7-8 EDWARD VII., A. 1908

P. Burnell covers the north half, where he is met by the lineman from Eighth Cabin.

This section of the line is built up on the mountain side almost above timber line, and from appearances the valley of the south fork of the Naas river could have been followed to better advantage. Although over very rough country, this stretch is kept in as good order as nature will permit. As the line raises towards the summit, there are more slides and falling timber. The nature of the country makes travelling very arduous.

The north beat from Seventh Cabin is the roughest so far. It is simply a succession of deep canyons. There are not enough poles to the mile on the whole distance from one cabin to the other, as there are only 380 tree poles and 3 set poles, or 20 to the mile.

Eighth Cabin to Ninth Cabin, 18.33 miles.

J. Mooney, operator, \$100 per month with provisions.

Louis Dubois, lineman, \$3 per day with provisions.

The work on the line is done in the same manner as on other stretches, although I consider that the section north from the Eighth Cabin is almost as bad as it could be. It is above timber line, and crosses the Naas summit, a snow-covered and wind-swept mountain top.

Between the Eighth and Ninth cabins the men have to contend with snowslides in addition to the landslides and falling timber with which they have heretofore struggled. It is simply marvellous that the line is kept in working order at all. Across this summit not a tree grows, and poles have to be carried from five to six miles either way. When one considers that from a three to a four mile climb is required to reach this summit from either side, and that it is almost five miles across, one can form an idea of the task a repairer has to perform when he goes out in winter to find line trouble over this section of our system. I crossed this summit on July 10, and there were then from ten to fifteen feet of snow on the level; still the section from Eighth Cabin to north 'half-way' was in fairly good condition, thence on the northern side of the Naas summit to the Ninth Cabin the line is in rather bad condition; right of way is very narrow, and very brushy.

There are 327 tree poles and 109 set poles on this stretch.

Ninth Cabin to Echo Lake, 34.5 miles.

John Muir, operator, \$100 per month with provisions.

George Hill, lineman, \$3 per day with provisions.

These are two very good men, especially Hill, whose right of way is well cleared. The right of way from Echo Lake south is in bad shape; it has evidently not been cleared since construction. The present lineman has not been on this beat long enough to improve its condition. There are quite a number of bad slides from Ninth Cabin to the crossing of the Naas, about eight miles away, and the line should be built around them, thus preventing to a great extent the numerous winter interruptions. One especially, north of Owl creek, had to be repaired at once, as the line was down and in the river as we passed the place. As there were two repair parties on the line at the time, instructions were issued and the work done immediately. The south beat from nine miles south of Echo Lake is in bad shape. This piece of country is simply a succession of swamps, beaver dams and beaver meadows. Willows grow so thick and high that a way has to be hacked through, and most of the way the wire is out of view. From Echo Lake to nine miles south the line is again found to be in first class condition.

There are 831 tree poles and 96 planted poles on this stretch.

SESSIONAL PAPER No. 19

Echo Lake to Twenty-five Mile Cabin, 22·36 miles.

J. Patterson, operator, \$100 per month with provisions.

K. Jepson, lineman, \$3 per day with provisions.

This section is in good condition, timber becomes lighter, right of way wider and the trail is almost level.

There are 602 tree poles and 87 set poles on this stretch.

Twenty-five Mile Cabin to Iskoot Cabin, 16·71 miles.

F. E. Hawkins, operator, \$100 per month and provisions.

J. Lowrie, lineman, \$3 per day and provisions.

This section of the line is also in good condition, the country being level, and this is the best right of way so far.

There are 493 tree poles and 15 planted poles on this stretch.

Iskoot to Raspberry Creek, 27·11 miles.

W. P. Ball, operator, \$100 per month and provisions.

W. Warnock, lineman, \$3 per day and provisions.

Line, right of way and trail are in first class condition.

There are 505 tree poles on this stretch.

Raspberry Creek to Telegraph Creek, 30·84 miles.

This office is only occupied during the winter months.

There are 694 tree poles and 211 planted poles between Raspberry Creek and Telegraph Creek.

TELEGRAPH CREEK, B.C.

Telegraph Creek is a small trading post on the Stickine river, about 160 miles from its mouth. It contains two stores, a few dwellings and a telegraph office.

Following is the average yearly cost of maintaining our office at this point:—

	Salary per Year.	Board allowance.	Total.
	\$ cts.	\$ cts.	\$ cts.
A. S. Gillespie, manager and operator.....	1,200 00	365 00	1,565 00
A. J. Charleson, line foreman.....	1,800 00	365 00	2,165 00
W. S. Simpson, lineman.....	900 00	365 00	1,265 00
Rent.....			120 00
Sundries.....			813 21
Total.....			5,928 21

GENERAL DESCRIPTION OF ROUTE FOLLOWED BY TELEGRAPH LINE.

Hazelton to Fifth Cabin.

Leaving Hazelton the line takes a general northerly direction as far as the Fifth Cabin. The country is well wooded and rather easily travelled.

The first and only village met is Kispiox, seven miles from Hazelton, on the north side of the Kispiox river. An Indian minister is located here, and there is a church and school. The line crosses the Kispiox at this point; span, 825 feet.

7-8 EDWARD VII., A. 1908

The first bad country is reached about four miles north of the Fourth Cabin, and is known locally as Babiche hill. This hill has always given a lot of trouble during the winter season; so has Poison mountain, which lies between Fourth and Fifth cabins.

In an effort to overcome the constant winter interruptions which took place on these sections, a cable totally unsuited for the purpose, as it was only insulated wire, mostly used for inside wiring for electric light purposes, was brought in, and some of it was laid on the ground without protection; a connection was never established, as it was supposed to have been damaged before it could be connected with the main wire. There are at present six coils of this cable at the 'half-way' south of the Fifth Cabin and one coil at the Fourth Cabin. This cable should be taken out on the return trip of the pack trains.

The cable which is now lying on the ground should be picked up, as it is very dangerous to horses and riders travelling along the trail owing to the loops and bights which act as regular snares.

Constant widening of the right of way is, in my opinion, the only cure for interruptions and would be permanent; in fact if the right of way were widened all along the line, so that falling timber could not reach the wire, where heavy timber grows, I am certain that a perfect service would be established.

Fifth Cabin to Ninth Cabin.

One mile and one-third north of Fifth Cabin, the construction work was abandoned in 1900. In 1901, the work was continued under the foremanship of Mr. A. Charleson, of New Westminster, B.C., under the direction of Mr. J. Y. Rochester, who was in charge of the work left undone in 1900. About two and one-half miles north of Fifth Cabin the line leaves the old cattle trail, which was once followed by people driving cattle to the north, and which here goes off in a more northerly direction while the line trends more to the northwest. From this neighbourhood the country along the line is the roughest so far encountered. The line runs between two very high mountain ranges, which become higher and higher as far as the summit of the Naas, where they join, forming the summit; consequently the work of keeping the line in order becomes more and more difficult. The trail is very rough, always wet and very steep. Here the men have to contend with rock and snowslides, apart from falling timber which had caused most trouble so far; miles of the line have been destroyed by a single slide.

In 1901, Mr. A. Charleson built and strung wire northwards to a point 11 miles and 246 feet north of the Sixth Cabin, where he was met by Mr. J. Y. Rochester's party, who were working southwards, and final and through connection was made on September 24, and Dawson was then connected by wire with the Canadian Pacific Railway telegraph system at Ashcroft.

Along this stretch of country the snowfall is very heavy, and the trees becoming subcharged with snow, tops break off, and falling on the wire break the line. A great number of interruptions are thus caused.

About 55 miles west of the Sixth Cabin the valley of the Kispiox river joins the valley of the south fork of the Naas river, and both run in almost a southerly and northerly direction from First to Ninth cabins. The distance is reported to be about 65 miles shorter than that covered by the line in its present location.

Ninth Cabin to 'Half-way' North.

The line on this stretch assumes a southwesterly direction, and as stated elsewhere in this report traverses a very wet, swampy country.

Ten miles and a half from Ninth Cabin the line crosses the Naas river; span, 585 feet.

All along this stretch, the snowfall is very heavy, causing a great deal of trouble.

SESSIONAL PAPER No. 19

'Half-way' North of Ninth Cabin to Echo Lake.

The line here assumes a west-northwest direction. The country quickly improves in character. About seven miles south of Echo Lake the line crosses the Ningunsaw river; span, 280 feet.

Echo Lake to Telegraph Creek.

About three miles north to Echo Lake, where the work was abandoned in 1900 by Mr. J. Y. Rochester and resumed by him in 1901, is practically the end of the difficult part of the construction.

From Echo Lake the line takes a more northerly direction, which it maintains as far as Telegraph Creek. The country keeps improving, getting drier, timber lighter, until the neighbourhood of Twenty-five Mile Cabin is reached, when the line enters a burnt-out area, which it follows to Telegraph Creek. The country is gently rolling, with an occasional deep ravine.

Snowfalls are heavy along these sections, so much so that some of the cabins are practically snowed under.

POLES.

Hazelton to Telegraph Creek.

	Distances.	Planted.	Trees.	Totals.
	Miles.			
Hazelton to First Cabin	27.33	137	584	721
1st to Second Cabin	27.7	94	427	521
2nd to Third "	18.6	110	330	440
3rd to Fourth "	14.86	111	252	363
4th to Fifth "	15.97	47	393	440
5th to Sixth "	16.69	44	408	452
6th to Seventh "	19.9	30	618	648
7th to Eighth "	18.83	3	380	383
8th to Ninth "	18.33	109	327	436
9th to Echo Lake	34.5	96	831	927
Echo Lake to 25-Mile Lake	22.36	87	602	689
25-Mile Cabin to Iskut	16.71	15	493	508
Iskut to Raspberry Creek	27.11	.....	505	505
Rasp. Cr. to Telegraph Creek	30.84	217	694	911
Total	303.83	1,100	6,844	7,944

These poles are all unpeeled fir, jackpine, black pine and spruce.

REFUGE HOUSES.

From Hazelton to Fifth Cabin refuges are located as near as possible to half-way between stations. From Fifth Cabin north owing to the more rugged country which the line traverses, the men in addition to the 'half-ways' have built themselves 'quarter-way' refuges. All these refuges are simply square log huts into which the wire is 'cut-in' for testing purposes.

TRANSPORTATION.

Supplies of all kinds, provisions, materials, &c., used on the line from Hazelton to the Ninth Cabin north, 172.21 miles, are taken from Vancouver and shipped on an ocean steamer to Port Essington, at the mouth of the Skeena river, 500 miles, there landed and reshipped on a river steamer and taken to Hazelton, B.C., about 165 miles, where they are again landed and turned over to a firm of packers, Barrett & Company, of Hazelton, who distribute them to their different destinations along the route.

To supply the stations from Telegraph Creek to Echo Lake, 97 miles, the route is from Vancouver to Fort Wrangell in Alaska, about 700 miles, transshipped to a river steamer, then up the Stickine river to Telegraph Creek, 185 miles, and there landed and turned over to Mr. J. F. Callbreath, who has our contract for packing.

7-8 EDWARD VII., A. 1908

On Saturday, June 9, my party was held at Second Cabin by an order from the government veterinary surgeon until an examination of the horses could be made owing to glanders having broken out among the cattle at Hazelton, where these horses had been procured. On Tuesday, June 12, three of the horses were shot, and the party allowed to proceed on its way.

Referring to the sections of the line which were not in good condition at the time inspected, I may say that there were two repair parties on the line, and the defects mentioned were rectified, putting in new poles where necessary, clearing right of way, chopping down leaning and dangerous trees which menaced the wire and doing general repairs.

On my return to Ottawa all detail changes or innovations which were thought to be needed on the line were communicated to you at headquarters by letters which are now on file in the department.

The map accompanying this report (not published) shows the telegraph line, telegraph offices along same, refuge houses, kind of timber growing in the neighbourhood, hilly or level country, and all information which was thought might be of use to the department. Distances given along the telegraph line are absolutely accurate, as the whole was chained during the course of the inspection.

I have the honour to be, sir,

Your obedient servant,

J. E. GOBEIL,

General Inspector, Yukon Telegraphs.

REPORT No. 12.

CABLE SHIP 'TYRIAN.'

Following is a statement of cables handled during the season of 1906:—

		Knots.	Knots.
July	11 Cable in tank from last year		75
"	14 Picked up Bryon-Anticosti		17 00
"	20 Picked up in repair Magdalen Islands Cable		15 00
"	21 Paid out in above repair	16 91	
"	25 Picked up second attempt same cable		4 92
"	— Paid out final repair	2 87	
"	28 Picked up Bryon-Grosse Isle Cable		1 20
"	— Paid out same repair	50	
Aug.	8 Gaspe-S. W. Point Cable, picked up		1 42
"	— Same repair, Laid down	2 94	
"	16 Long Point-Anticosti picked up		5 05
"	16 Paid out, same repair	12 00	
"	24 Picked up of the Bryon-Heath Point Cable		41 10
Sept.	13 Laid at the St. François Landing (Isle of Orleans)	1 75	
"	15 Laid from Baie St. Paul to St. François	30 00	
"	26 Grosse Isle-Isle Reaux laid	25	
"	28 Crane Island-Montmagny repair, laid	1 25	
Oct.	14 Long Point-Anticosti, removing leak, laid	3 66	
"	— Same repair, picked up		1 86
"	23 St. Paul Island Cable picked up		2 91
"	— Same repair, laid down	6 92	
"	30 Scatarie Island repair, laid down	25	
Nov.	14 Petit Passage, laid	55	
"	19 Cape Sable Island, laid	50	
		80 35	91 21

The difference, 10.86 knots, on account of bad cable picked up, will be found to be short, nine knots of good cable on board.

Respectfully submitted,

A. B. McDONALD,

Electrician.

PART VI

REPORT OF THE COLLECTOR OF REVENUE

DEPARTMENT OF PUBLIC WORKS

1906-1907

F. GÉLINAS, Esq.,
 Secretary,
 Department of Public Works,
 Ottawa, Ont.

SIR,—I have the honour of submitting my report for the nine months ended March 31, 1907.

Other pressing duties requiring my attention, I regret that I have been unable to examine, as usual, the books and accounts of the officers under my control.

During the nine months just closed the revenue accrued from public works shows an increase of \$1,529.32, being \$126,389.28, while for the previous year it was \$124,854.96.

The collections show a decrease of \$5,564.41, being \$124,057.47, while in the preceding year they amounted to \$129,621.88.

The revenue accrued from slides and booms was \$89,141.79 or \$12,697.50 more than for year ended June 30, 1906.

The collections were \$86,837.98 or \$5,626.77 more than the previous year.

The outstanding uncollected revenue was increased by \$2,298.81.

The graving docks yielded \$30,652.79 or \$13,414.88 less than in 1905-6.

Rents amounted to \$6,589.70, an increase of \$2,246.70.

Having dealt with the revenue in a general way, I now submit the particulars in detail, relative to the several services under their respective heads.

SLIDES AND BOOMS.

OTTAWA DISTRICT.

The tolls charged up amounted to \$43,846.90 ; \$5,899.21 more than in 1905-6.

The number of saw-logs that passed through the works was 4,185,118 pieces, or 312,012 pieces less than the previous year.

Last year, 1905-6, with a falling off in the revenue compared with the previous year the number of saw-logs was greater than in the preceding year, this I explained was largely attributable to the large quantity hung up in the Petawawa river, these latter having come out in addition to some others, contributed greatly to the increase in the revenue for 1906-7.

Of square timber, there were only 444 pieces—101 pieces less than 1905-6.

All the revenue accrued in this district during the nine months to March 31, last, was collected, except \$3.29.

Of the dues accrued since July 1, 1889, when this department took over the collection, there remains uncollected \$8,148.64, full particulars of which will be found in statement No. 2 herewith.

Of the dues accrued before July 1, 1889, there still remains \$56,805.65—all of which should be written off. See statements Nos. 1 and 3 herewith for particulars.

The accounts for the Ottawa district stand thus:

Dues accrued during nine months to March 31, 1907.	\$43,846 90
Of which there has been collected.	43,843 61
Dues accrued prior to the collection being transferred to this department July 1, 1889.	56,805 65

7-8 EDWARD VII., A. 1908

Dues of 1889-90.....	\$ 6,903 05
“ 1890-1.....	28 42
“ 1892-3.....	379 80
“ 1896-7.....	196 71
“ 1903-4.....	637 37
“ 1906-7.....	3 29
Total.....	\$ 8,148 64

Of the dues accrued since this department assumed the collection, \$922,304.06, all but \$31.71 absolutely coming to this department has been collected.

The increases and decreases from the different works, as compared with 1905-6 were as follows :—

Increase—

Petawawa.....	\$ 6,504 94
Coulonge.....	741 72
Gatineau.....	141 70

Decreases—

Main Ottawa.....	419 33
Cheneaux boom.....	269 76
Madawaska.....	323 85
Dumoine.....	53 50
Black river.....	422 71

Reverting to the matter of the number of pieces of saw-logs being smaller this year than last, I may say that a large quantity of small spruce, formerly classed as saw-logs in the returns, being now manufactured into pulp, is dealt with and charged by the cord of 115 cubic feet computed on the cubic contents of each piece.

Herewith are statements in detail :—

No. 1. Statement of amounts outstanding prior to July 1, 1889, uncollected June 15, 1907.

No. 2. Statement of dues accrued at Ottawa since July 1, 1889, uncollected June 15, 1907.

No. 3. Statement of amounts accrued at Quebec prior to July 1, 1889, uncollected June 15, 1907.

No. 4. Statement of the number of pieces of square timber, saw-logs, &c., which passed through the Ottawa works during the nine months ended March 31, 1907.

No. 5. Statement of dues accrued from each of the slides and works in the Ottawa district during the nine months ended March 31, 1907.

ST. MAURICE DISTRICT.

The revenue from this district was \$41,334.16, being \$4,233.14 more than in 1905-6, and the largest in the history of these works.

Of the revenue of 1906-7, \$41,324.16 was collected, \$5 was written off and \$5 remains uncollected, the return for the latter came to me too late to reach the parties who, I understand, reside in Buffalo, N.Y.

The number of pieces of all kinds of timber that passed through the works was equivalent to 4,160,220 saw and pulp logs.

Since I took charge of this district in 1892, all the revenue but \$5 above mentioned has been collected.

The amount outstanding prior to July 1, 1892, remains at the same figure, viz., \$14,486.49, and should be written off, for reasons assigned in statement No. 6 herewith.

I anticipate a very substantial increase in the revenue again this year, 1907-8, although the spring opened unfavourably yet in May the water began to come up, and

SESSIONAL PAPER No. 19

I expect the quantity left in the small streams will be very much less than last year. The St. Maurice being very low at the opening of navigation, the booms at Three Rivers were in position in good time and not one log was lost.

The alligator tugs continue to give great satisfaction, and it is daily being realized what an advantage it is to have the aid of these machines, in fact I venture to say that it would be next to impossible to handle the immense number of logs now coming down this river without them.

I would again urge the adoption of a system of water storage on the tributaries of the St. Maurice; last year the business was almost paralyzed for want of water on this river, yet on the Trent waters, where there is a storage system, they had a splendid supply all through the year, the Great Lakes of the Manouan and on other tributaries of the St. Maurice would supply a vast quantity of water, if shut off in the spring, and dams opened under careful management at times, when the water had fallen in the main river below normal summer level.

The establishment of such a system would not be beneficial only to the lumbermen, it is almost as great a necessity to the interest of the government, in the first place, the safe conveyance of the timber to the mills, means a good revenue, and secondly, holding back the waters, as proposed, in the spring would tend largely to prevent such freshets as have occurred in the past when, as on one occasion, all the works in the river were swept away by the flood.

NEWCASTLE DISTRICT.

The dues accrued from this district amounted to \$1,670.21, all of which was collected; increase, \$274.63.

The tolls outstanding on March 31, 1907, amounted to \$3,556.89, of which \$3,521.19 should be written off in accordance with a judgment of the Exchequer Court, the remainder \$35.70, will also have to be written off, the debtor being a very old man and hopelessly insolvent.

Full particulars of amount outstanding will be found in Statement No. 7 herewith.

Since July 1, last, all the works formerly controlled by this department in the Trent waters were transferred to the Department of Railways and Canals, except the booms and slides at Fenelon Falls and slide, booms and dam at Burleigh Falls, which being exclusively for the convenience of the lumber trade were retained by this department.

Therefore, for many years to come, I am confident that the revenue will be fully sufficient to cover cost of maintenance and repairs.

SAGUENAY DISTRICT.

The revenue accrued during the past fiscal term was \$2,290.52. None of which has yet been collected.

The Chicoutimi Pulp Company are under contract with the department to contribute any deficiency which may occur between the cost of maintenance and the amount realized from tolls on timber passing through the Saguenay boom. The tolls for 1906 are amply sufficient to cover cost of maintenance, hence the company has been only called upon to pay the tolls fixed by order in council.

The company, however, dispute their liability on the ground that the boom was not completed till late in the season of 1906 and the matter is as yet unsettled.

There is also a counter claim for timber lost through the boom not being ready when expected, thus the timber passed down the river and was a total loss to the owner. The amount involved, however, is but \$56.57, and the quantity of timber so lost was over 800 pieces of 20 feet and upwards in length.

Statement No. 8, herewith shows the particulars of the revenue from this district.

7-8 EDWARD VII., A. 1908

GRAVING DOCKS.

ESQUIMALT GRAVING DOCK.

The revenue from this service was \$19,627.04, the largest for a great many years and \$5,258.92 more than in 1905-6. Of the 144 days the dock was used during the nine months, it was occupied for only seventeen days by His Majesty's vessels.

For full details see Statement No. 9 herewith. As a much larger class of vessels is now employed in the coasting trade, special provision has to be made at the dock to accommodate them, hence, a revision of the regulations and tariff will shortly be submitted for the approval of the Governor General in Council.

LÉVIS GRAVING DOCK.

The revenue was \$13,056.06 less than for the year 1905-6, being only \$6,659.52. See statement No. 10.

From July 1 to November 30 the dock was only occupied for ninety-four days, of which but one sea-going steamer was in for only nine days, for the remainder of the time there were only one government steamer, one dredge and the steamer *Quebec*.

KINGSTON GRAVING DOCK.

This dock was occupied for thirty-six days, exclusive of winter months. The income for the nine months was \$4,365.93 or \$5,617.74 less than in 1905-6. See statement No. 11.

The steamer *Fairmount* wintered in this dock, occupying it for 107 days.

RENTS.

All the rents accrued amounting to \$6,589.70 was collected but \$23. This total being \$2,246.70 more than in 1905-6.

The work of this office has been very much increased in securing the rents from the properties lately acquired by the government on Sussex street and McKenzie avenue. This branch of our business requires much time, in investigating claims for remission on many grounds and claims for repairs or privileges said to have been promised by the previous owner.

The collections on this account were as follows :—

Property or Privilege Rented.	Rent Accrued.	Uncollected.
	\$ cts.	\$ cts.
Old P.O. Building, Victoria, B.C.	3,114 00	
Sussex Street property, Ottawa, Ont.	2,568 70	23 00
Portion Kingston Graving Dock premises.	187 50	
Pt. Reserve, Victoria Island, Ottawa.	2 00	
Reserve, east side St. Maurice River.	50 00	
Wooden structures, Cape Tormentine, N.B.	1 00	
Privilege of erecting towers in Burlington Beach.	1 00	
Island and water power, Calumet Channel, P.Q.	12 50	
Pt. Reserve, Pond Creek, P.Q.	1 00	
Pt. Reserve, west side Black River, P.Q.	25 00	
Ile Caron, P.Q.	75 00	
Tramway on Breakwater, Goderich, Ont.	5 00	
Pt. Public Building, Drummondville, P.Q.	112 00	
Old Govt. House, Yale, B.C.	5 00	
Privilege water pipe connection, William Head, B.C.	12 00	
Portion Immigration Building, Port Arthur, Ont.	90 00	
Building at Glace Bay, C.B.	28 00	
Pt. Temporary P.O. Premises, Toronto.	300 00	
	6,589 70	23 00

SESSIONAL PAPER No. 19

The following comparative table of Public Works Revenue accrued during nine months ended March 31, 1907, compared with that of the fiscal year ended June 30, 1906, shows at a glance in what accounts increases and decreases herein reported have occurred :—

	9 Mos. to March 31, 1907.	Year 1905-1906.	Increase, 1907.	Decrease, 1907.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
SLIDES AND BOOMS.				
Ottawa District.....	43,846 90	37,947 69	5,899 21	
St. Maurice District.....	41,334 16	37,101 02	4,233 14	
Newcastle District.....	1,670 21	1,395 58	274 63	
Sauguenay District.....	2,290 52		2,290 52	
	89,141 79	76,444 29	12,697 50	
GRAVING DOCKS.				
Esquimalt, B.C.....	19,627 04	14,368 12	5,258 92	
Levis, Que.....	6,659 82	19,715 88		13,056 06
Kingston, Ont.....	4,365 93	9,983 67		5,617 74
	30,652 79	44,067 67	5,258 92	18,673 80
Net decrease in 1906-7..	13,414 88			
Rents.....	6,589 70	4,343 00	2,246 70	

Total increase dues accrued 1906-7.. . . . \$ 1,529 32

Collections—nine months to March 31, 1907—

From slides and booms.. . . . \$ 86,837 98

From graving docks.. . . . 30,652 79

From rents.. . . . 6,566 70

Total.. . . . \$124,057 47

Decrease in collections, 1906-7.. . . . \$ 5,564 41

In conclusion I have to acknowledge the uniform courtesy and cheerful assistance accorded me at all times by the officers with whom I have been brought in contact during the year.

I have the honour to be, respectfully, sir,

Your obedient servant,

EDW. T. SMITH.

7-8 EDWARD VII, A. 1908

No. 1.—STATEMENT of Slidage and Boonage from the Ottawa Slides and Works, accrued prior to July 1, 1889, Outstanding March 31, 1907, and remaining uncollected on June 15, 1907.

By whom due.	Bad and Doubtful Debts.	Chaudiere Boonage in Suspense.	Other Slide and Boon Dues Disputed.	Total Outstanding on Sept. 30, 1902.	Year to which Dues Belong.	Remarks.
	% cts.	% cts.	% cts.	% cts.		
John & Wm. McLean.....	53 14			53 14	1873	Insolvent.
John Rowan.....	342 50			342 50	1872-1873	"
Leonioux & Charrette.....	21 30			21 30	1873	"
Tailon & Lajoie.....	148 10			148 10	1873-1874	"
Mosgrove & McHarry.....	261 42			261 42	1873-1874	"
W. C. Wells.....	600 90			600 90	1873-1874	"
Dufresne & McGarity.....	528 80			528 80	1874-1875	"
Walton Smith.....	171 46			171 46	1874-1875	"
A. H. Baldwin.....	3,507 92			3,507 92	1871 to 1874	"
Hon. James Skead.....	9,807 65			9,807 65	1861, 1863, 1864, 1869, 1875 to 1878	"
Batson & Currier.....	5,558 70			5,558 70	1875 to 1877	"
A. F. A. Knight.....	546 30			546 30	1878	"
James Walker.....	11 25			11 25	1877	"
R. Campbell & Son.....	1,558 50			1,558 50	1879 to 1881	"
James G. Bryson.....	73 50			73 50	1880	"
Costello Bros.....	40 62			40 62	1882	"
N. E. Cornuier.....	428 34			428 34	1888	"
James Yuhill.....	9 25			9 25	1876	Overcharge.
J. & R. Grier.....	76 84			76 84	1883	"
R. & W. Conroy.....	95 42			95 42	1882-1883	"
A. P. White.....	101 00			101 00	1881	"
B. Caldwell & Son.....	4 33			4 33	1887	"
J. R. Booth.....	9,871 92	398 88		10,270 81	1881 to 1888	"
Perley & Patten.....	8,889 85			8,889 85	1881 to 1888	"
The Brounson & Weston Lumber Co.	8,180 79			8,180 79	1881 to 1888	"
Pierce & Co.....	462 18			462 18	1888	"
G. A. Grier & Co.....	1,060 59			1,060 59	1886 1887	"
Estate late Levi Young.....	1,461 20			1,461 20	1881 to 1885	"
Wm. Mason.....	413 85			413 85	1881 to 1888	"
Gilmour & Co.....	406 27			406 27	1884	"
John Rochester.....	258 88			258 88	1881 to 1883	"
J. & G. Bryson.....			252 20	252 20	1886	"
	23,997 28	31,006 54	651 08	55,653 90		Counter claim for damage by breaking of Coulonge Works.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

EDWARD T. SMITH,

Collector of Slide and Boon Dues.

(\$398.88, counter claim for damages by the breaking of Coulonge Boon.

*Chaudiere boonage. These parties claim that they have maintained these works wholly at their own expense since 1881.

Counter claim for damage by breaking of Coulonge Works.

SESSIONAL PAPER No. 19

No. 2.—STATEMENT of Slide and Boom Dues accrued from the Ottawa River Works, since July 1, 1889, Outstanding on March 31, 1907.

Name.	Year to which Dues belong.	Claudière Boomage in Suspense.	Ordinary Dues.	Total Outstanding.	Remarks.
		\$ cts.	\$ cts.	\$ cts.	
J. R. Booth	1889-90	2,561 69		2,561 69	Claudière boomage reported to Council, and referred to Treasury Board, should be written off.
The Bronsons & Weston Lumber Co.	1889-90	2,056 96		2,056 96	
Perley & Pattao	1889-90	1,293 26		1,293 26	
Wm. Mason & Sons	1889-90	167 66		167 66	
Pierce & Co.	1889-90	913 48		913 48	Legal action taken to recover this. Retained by Mr. Booth in settlement of an account due him, which the Auditor General refuses to pay, as Mr. Booth appeared to be in arrears in this and Statement No. 1. Have counter claim for work done on slide to this amount.
Alex. Fraser, acct. Thos. Stephens.	1890-91		28 42	28 42	
J. R. Booth.	1892-93		379 80	379 80	
Bryson & Fraser	1896		196 71	196 71	Petawawa slidage disputed.
J. R. Booth	1903		339 27	339 27	
Hawkesbury Lumber Co	1903		298 10	298 10	
R. H. Klock & Co	1906		2 07	2 07	
Estate A. Lumsden	1906		1 22	1 22	
		6,903 65	1,245 59	8,148 64	

EDWARD T. SMITH,

*Collector of Slide and Boom Dues.*DEPARTMENT OF PUBLIC WORKS,
OTTAWA, March 31, 1907.

7-8 EDWARD VII., A. 1908

No. 3.—STATEMENT of Outstanding Slide Dues, Ottawa District, Bonds for which were sent to Quebec for Collection.

Name.	From 1860.	From 1861.	Total.
	\$ cts.	\$ cts.	\$ cts.
Hon. James Skead.....	245 00	210 00	455 00
James Mair.....		696 75	696 75
	245 00	906 75	1,151 75

These amounts were uncollected, as the parties claimed damages for loss caused by the Madaswaska boom breaking in 1860.

A decision on their claims was not arrived at till August 2, 1869. On the 5th idem Messrs. Skead and Mair were notified that the department could not recognize their claim.

To the best of my knowledge, this decision was never communicated to the collector of slide dues, consequently these accounts remained in abeyance.

Since then both parties died, and I believe both were insolvent at the time of their death.

EDWARD T. SMITH,

Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

No. 4.—STATEMENT of the number of pieces of square timber, saw logs, &c., that passed through the government slides and works on the River Ottawa and its tributaries during the fiscal year ended March 31, 1907.

	Pieces.
Square timber.....	444
Saw logs.....	4,185,118
Boom and dimension timber.....	74,859
Cedars.....	45,951
Railroad ties.....	360,984
Fence posts.....	99,552
Total.....	<u>4,766,908</u>

Also 33,948·99 cords of pulp wood.

The revenue accrued on the above was \$43,846·90.

EDWARD T. SMITH,

Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

SESSIONAL PAPER No. 19

No. 5.—STATEMENT showing the dues accrued on the undermentioned works on the River Ottawa and tributaries during the fiscal year ended March 31, 1907.

River or other improvement.	Amount.
Main Ottawa	\$ 2,098 98
Cheneaux boom	7,267 54
River Petawawa	11,445 25
River Madawaska	1,493 56
River Coulonge	7,873 36
River Dumoine	187 39
Black river	6,117 27
Gatineau	7,363 55
	<hr/>
	\$43,846 90
	<hr/>

Amounting to \$43,846.90.

EDWARD T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

7-8 EDWARD VII., A. 1908

No. 6.—STATEMENT of Slide and Boom Dues from the St. Maurice Slides and Works outstanding on March 31, 1907, and remaining uncollected on June 15, 1907.

Name.	Year to which Dues belong.	Amount.	Total.	Remarks.
		\$ cts.	\$ cts.	
George Baptist, Son & Co.	1878	469 95		Have counter claims for damages to logs caused by the booms not being stretched early enough in the spring of 1878 to prevent the logs going over the chutes.
"	1879	2,110 02		
"	1880	1,656 18		
"	1881	293 69		
"	1882	165 80		
"	1884	118 50		
"	1888	4 28	4,859 02	The claims were submitted to Special Commissioner, Mr. McDougall, afterwards Judge, who, after hearing the evidence on both sides, recommended that the claims of the parties should be allowed.
Ross, Ritchie & Co.	1878	3,072 84		
"	1883	2,173 68		
"	1884	28 96		
"	1886	1 62		
"	1887	4 38	5,281 48	
Alex. Baptist			2,116 96	
Wm. Ritchie & Co.	1888	779 24		Of this amount \$754.20 is claimed to be an overcharge. Insolvent.
"	1889	332 11	1,111 35	
Ritchie Bros	1886	413 43		This amount is composed of overcharges in 1886 and 1887 of \$842.76 and overpayment in 1884 of \$205.38.
"	1887	634 71	1,048 14	
G. B. Hall	1890		49 34	Insolvent.
T. E. Normand	1890		42 28	Claims that this balance is an overcharge.
Trefflé Biron	1891		0 92	Would cost more to collect than it is worth.
			* 14,481 49	
Bailey, Johnson and Saunders	1906	5 00	5 00	
			14,486 49	

*To make this balance agree with the Public Accounts, there should be deducted \$7.93 over credited Alex. Baptist, and \$217.17 added thereto, being \$190.40 paid July 23, 1884, and \$26.77 overcharged in error to Wm. Little, not in any of the collector's returns, which will give balance due September 30, 1894, of \$14,690.73.

EDWARD T. SMITH,

Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

SESSIONAL PAPER No. 19

No. 7.—STATEMENT of Slides and Boom Dues accrued from the Newcastle and Trent River Works, outstanding on March 31, and remaining uncollected June 15, 1907.

Name.	Year to which Dues belong.	Amounts disputed.	Ordinary Dues.	Total.	Remarks.
		\$ cts.	\$ cts.	\$ cts.	
Irwin & Boyd.....	1881.....	59 79	59 79	Insolvent.
Thomson & McArthur.....	1880.....	52 78	.. ..	52 78
Jabez Thurston.....	1882.....	12 50	.. ..	12 50
McDougall & Ludgate.....	1879.....	65 07	.. ..	65 07
Bigelow & Trounce.....	1882 to 1885.....	216 21	216 21	Dead and estate distributed.
R. G. Strickland.....	1882, '83, '85, '86 and '87.....	215 08	.. ..	215 08
Est. late Geo. Hillard.....	1877 to 1883 and 1886.....	354 15	.. ..	354 15
T. G. Hazlett.....	1881, '82, '84 to '89.....	885 25	.. ..	885 25
J. M. Irwin.....	1882, '83, '85 to '88.....	698 45	698 45	According to judgment in Exchequer Court, <i>re</i> Boyd <i>vs.</i> Smith, these cannot be collected.
D. Ulyot.....	1881 to 1887.....	547 68	.. ..	547 68
Green & Ellis.....	1881 to '83, '85, '88, and '89.....	157 01	.. ..	157 01
A. W. Parkin.....	1884, '85, '88, '90, and '91.....	65 92	.. ..	65 92
The Dickson Estate.....	1883.....	137 50	137 50	Sent to Dept. of Justice for collection.
Alfred McDonald.....	1888.....	40 80	.. ..	40 80
John Parkin.....	1889.....	13 00	.. ..	13 00
John Dovey.....	1894, '95, '96.....	.. ..	35 70	35 70
		3,521 19	35 70	3,556 89	

EDWARD T. SMITH,

Collector Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, June 15, 1907.

No. 8.—STATEMENT of Slide and Boom Dues from Saguenay Works, Outstanding on March 31, 1907, Uncollected June 15, 1907.

Name.	Year to which Dues belong.	Amount.	Remarks.
		\$ cts.	
La Cie de Pulpe de Chicoutimi.....	1906.....	2,233 85	Disputed.
Jos. Vachon.....	1906.....	56 67	"
		2,290 52	

EDWARD T. SMITH,

Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, June 15, 1907.

7-8 EDWARD VH., A. 1908

No. 9.—DRY DOCK AT ESQUIMALT, B.C.

STATEMENT of Dues and other charges collected during the Year ended March 31, 1907.

Name of Vessel Docked.	Tonnage.	PERIOD OF DOCKAGE.		Dockage Charges.	Other Charges.	Total.
		From.	To.			
		1906.	1906.	\$ cts.	\$ cts.	\$ cts.
S.S. 'Mariechen'.....	3,930	July 1..	Aug. 7..	4,403 00	30 60	4,433 60
S.S. 'Water Lilly'.....	"	" 1..	" 7..	.....	7 50	7 50
S.S. 'Indiana'.....	3,335	Aug. 8..	" 11..	614 00	184 20	798 20
Bk. 'Battle Abbey'.....	3,483	" 17..	" 18..	400 00	1 40	401 40
S.S. 'Pondo'.....	2,741	" 31..	Sept. 1..	400 00	.....	400 00
Ship 'Lisbeth'.....	2,346	Sept. 2..	" 4..	487 00	.....	487 00
S.S. 'Twickenham'.....	4,221	" 13..	Oct. 21..	5,025 00	319 20	5,344 20
S.S. 'Henley'.....	3,249	Oct. 23..	" 26..	610 00	16 80	626 80
S.S. 'Ellerie'.....	3,570	Nov. 5..	Nov. 7..	512 00	22 80	534 80
Ship 'Elisa Lihn'.....	2,245	" 7..	" 9..	485 00	2 40	487 40
S.S. 'Strathnairn'.....	4,350	" 9..	" 11..	527 00	2 40	529 40
S.S. 'Jeanie'.....	1,071	" 22..	" 23..	350 00	.....	350 00
H.M.S. 'Egeria'.....	910	" 31..	Dec. 8..	408 21	.....	408 21
S.S. 'Ramses'.....	3,582	Dec. 12..	" 13..	400 00	.....	400 00
S.S. 'Gymerie'.....	4,002	" 29	Jan. 1, '07..	642 00	.....	642 00
		1907.	1907.			
H.M.S. 'Shearwater'.....	980	Jan. 16..	Jan. 26..	315 13	.....	315 13
S.S. 'Salatis'.....	5,142	" 25..	" 26..	543 00	.....	543 00
Cable Ship 'Restorer'.....	3,180	Feb. 5..	Feb. 13..	1,128 00	53 40	1,181 40
D.G.S. 'Kestrel'.....	.....	.....	.....	.....	2 40	2 40
S.S. 'Sai'.....	4,298	Mar. 2..	Mar. 4..	526 00	4 80	530 80
S.S. 'Hermonthis'.....	4,782	" 11..	" 12..	400 00	6 60	406 60
— 'Tottenham'.....	4,494	" 21..	" 25..	790 00	7 20	797 20
	65,941			.....	.....	19,627 04

EDWARD T. SMITH,

*Collector of Public Works Revenue.*DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

SESSIONAL PAPER No. 19

No. 10.—STATEMENT of Dues and other charges collected during the nine months ended March 31, 1907.

Name of Vessel Docked.	Tonnage.	PERIOD OF DOCKAGE.		Dockage Charges.	Other Charges.	Total.
		From.	To.			
		1906.	1906.	\$ c.s.	\$ cts.	\$ cts.
S.S. 'La Canadienne'.....	5 372	Aug. 13..	Aug. 17..	374 40	.....	" 374 40
Dredge 'Galveston'.....	13 1,267	" 23..	Sept. 4..	1,034 18	.....	1,034 18
Str. 'Quebec'.....	.....	Entry Fee	.....	.....	.....	200 00
S.S. 'Kensington'.....	9 8,669	Nov. 22..	Nov. 30..	2,187 04	13 50	2,200 54
Str. 'Quebec'.....	67 832	Sept. 8..	" 13..	3,045 60	5 10	2,850 70
	94 11,140			6,641 22	18 60	6,659 82

EDWARD T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

7-8 EDWARD VII., A. 1908

No. 11.—THE DRY DOCK AT KINGSTON, ONT.

STATEMENT of Dues and other Charges collected during the nine months ended
March 31, 1907.

Name of Vessel Docked.	Tonnage.	PERIOD OF DOCKAGE.		Dockage Charges.	Other Charges.	Total.
		From	To			
		1906.	1906.	\$ cts.	\$ cts.	\$ cts.
Str. 'Ramona'.....1	57	July 9.	July 9.	20 00		20 00
Str. 'Arundell'.....1	339	" 10..	" 10..	67 80		67 80
Str. 'Castanet'.....1	54	" 22..	" 23..	20 00		20 00
Barge 'Ceylon'.....3	908	" 26..	" 28..	267 92	10 50	278 42
Str. 'Resolute'.....1	372	" 29..	" 30..	74 40	5 00	79 40
Str. 'Business'.....1	985					
" cargo.....1	1,000	Aug. 3..	Aug. 4..	248 50		248 50
Str. 'New Island Wanderer'.....1	123	" 7..	" 8..	21 60		21 60
Gov. 'Dredge Montague'.....3	253	" 11..	" 14..	100 60	21 00	121 60
Sch. 'Acacia'.....1	188	" 20..	" 21..	37 60		37 60
Str. 'Tecumseh'.....1	840	" 24..	" 25..	134 00		134 00
Yacht 'Skylark'.....1	43	" 29..	" 30..	20 00		20 00
Str. 'Aletha'.....1	171	" 31..	Aug. 31..	34 20		34 20
Tug 'H. F. Bronson'.....1	137	Sept. 13..	Sept. 14..	27 40		27 40
Sch. 'Flora Calvert'.....1	190	" 27..	" 27..	38 00		38 00
Str. 'Henry B. Hall'.....1	1,152	Oct. 15..	Oct. 17..	245 84		245 84
Str. 'Avon'.....1	1,417	" 20..	" 23..	390 08	5 60	395 08
Str. 'John C. Howard'.....3	1,244	" 26..	" 27..	174 40	5 00	179 40
Barge 'Augustus'.....2	802	" 29..	" 30..	130 20	5 00	135 20
Str. 'Bickerdike'.....2	1,945	Nov. 4..	Nov. 6..	380 65		380 65
Govt. Str. 'Scout'.....2	196	" 6..	" 8..	59 20		59 20
Str. 'City of New York'.....1	292	" 10..	" 11..	58 40		58 40
Tug "Emerson".....1	292	" 12..	" 14..	78 84		78 84
Barge 'Muskoka'.....1	276	" 22..	" 23..	55 20		55 20
Str. 'City of Montreal'.....1	481	" 27..	" 28..	96 20		96 20
Str. 'Fairmount'.....1	1,554	Dec. 4..	Dec. 6..	205 40		205 40
".....1	1,895	" 12..	" 15..	239 50	10 50	250 00
Entrance fee—winter dockage.						100 00
		1906.	1907.			
".....107	1,895	Dec. 13..	Mar. 30..	1,070 00	5 00	975 00
		19,101		4,298 93	67 00	4,365 93

EDWARD T. SMITH,
*Collector of Public Works Revenue.*DEPARTMENT OF PUBLIC WORKS,
OTTAWA, June 15, 1907.

PART VII

MISCELLANEOUS

ACTS OF PARLIAMENT, PASSED AT SESSION OF 1907, HAVING REFERENCE TO THIS DEPARTMENT.

CONTRACTS LET BY THIS DEPARTMENT.

PROPERTY PURCHASED OR SOLD.

PROPERTY, LEASED TO OR BY THE DEPARTMENT.

CURATOR'S REPORT, NATIONAL ART GALLERY.

NAMES OF CHIEF OFFICERS OF THE DEPARTMENT.

NAMES OF OFFICIALS EMPLOYED ON SLIDES AND BOOMS.

NAMES OF PERSONS EMPLOYED ON GRAVING DOCKS.

NAMES OF ENGINEERS, FIREMEN AND CARETAKERS OF PUBLIC BUILDINGS.

AND THE OFFICIAL CORRESPONDENCE OF THE DEPARTMENT.

FOR THE

FISCAL YEAR ENDED MARCH 31, 1907

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, October 1, 1907.

SIR,—I beg to transmit herewith the following statements concerning the transactions of the department from July 1, 1906, to March 31, 1907, with respect to contracts and properties, and which are required for insertion in the annual report for the period above-mentioned, viz.:—

No. 1.—Statement of contracts let by this department from July 1, 1906, to March 31, 1907.

No. 2.—Statement of property purchased and sold by the said department during the same period.

No. 3.—Statement of property leased to and by the said department, during the same period; and

No. 4. A list of some of the Public Acts of the Parliament of Canada, passed at the last session and having reference to the department.

I have the honour to be, sir,

Your obedient servant,

J. A. CHASSE,

Law Clerk.

FRED. GÉLINAS, Esq.,

Secretary, Department of Public Works,
Ottawa.

STATEMENTS

SHOWING

1ST.—CONTRACTS LET BY THE DEPARTMENT OF PUBLIC WORKS OF CANADA, FROM JULY 1, 1906, TO MARCH 31, 1907.

2ND.—PROPERTY PURCHASED OR SOLD BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1907.

3RD.—PROPERTY LEASED TO AND BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1907.

7-8 EDWARD VII., A. 1908

No. 1.—CONTRACTS let by the Department of Public Works of Canada from the 1s July, 1906, to the 31st March, 1907.

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS.			\$ cts.
<i>Nova Scotia.</i>			
Amherst, Post Office. Supply of coal.	Maritime Coal, Ry. & Power Co.	Sept. 20, 1906.	259 92
Annapolis, Post Office. Supply of coal.	Canada Coal & Ry. Co.	" 17, 1906.	184 49
Antigonish, Post Office. Supply of coal.	Chs. W. Ives.	" 18, 1906.	107 63
" Post Office. Fittings.	Rhodes, Curry & Co.	Dec. 10, 1906.	3,350 00
Aricat, Post Office. Supply of coal.	B. Gerroir.	Sept. 18, 1906.	150 30
Baddeck, Post Office. Supply of coal.	The Cape Breton Coal Mining Coal Co.	" 18, 1906.	170 20
Canso, Public Building. Heating apparatus.	James Reid.	Nov. 12, 1906.	1,200 00
" Public Building. Fittings.	Chappell Bros. & Co., Ltd.	Feb. 7, 1907.	1,890 00
Dartmouth, Post Office. Supply of coal.	Mahou & Gulf Coal Co., Ltd.	Sept. 20, 1906.	77 00
Digby, Post Office. Supply of coal.	Wm. E. Blarcon.	" 29, 1906.	225 00
Guysborough, Post Office. Supply of coal.	A. J. O. Maguire.	Oct. 11, 1906.	174 55
Halifax, Asst. Rec. Gen'l. Off. Supply of coal.	Mahou & Gulf Coal Co., Ltd.	Sept. 20, 1906.	36 00
" Asst. Rec. Gen'l. Off. Supply of coal.	S. Cunard & Co.	" 17, 1906.	25 55
" Dom. Building. Supply of coal.	Hugh D. Mackenzie.	" 15, 1906.	417 19
" New Custom House. Supply of coal.	"	" 15, 1906.	218 77
" Immigration Building. Supply of coal.	"	" 15, 1906.	391 00
" Detention Hospital. Supply of coal.	"	" 15, 1906.	113 30
" Examining Warehouse. Supply of coal.	"	" 15, 1906.	170 00
" Custom House. Electric elevator.	Wm. Malloch & Co.	Aug. 1, 1906.	3,560 00
" Lawlor's Island Hospital. Heating apparatus.	Rhodes, Curry & Co.	Nov. 2, 1906.	1,025 00
" Detention Hospital. Heating apparatus.	Martel & Langelier.	Jan. 12, 1907.	3,300 00
" Custom House. Painting.	Frank Reardon.	" 28, 1907.	2,360 00
" Detention Hospital. Wiring.	S. A. Marshall & Son.	Feb. 2, 1907.	1,800 00
" Custom House. Tower clock.	C. G. Shulze.	July 25, 1906.	2,000 00
" Custom House. Heating apparatus.	Longard Bros.	Feb. 28, 1907.	1,259 00
Inverness, Construction of a Public Building.	E. F. Munro.	July 28, 1906.	14,559 00
Kentville, Public Building. Supply of coal.	James Kenna.	Sept. 19, 1906.	101 33
" Post Office. Supply of coal.	Canada Coal & Ry. Co.	" 17, 1906.	180 00
Liverpool, Post Office. Supply of coal.	L. V. Dexter.	" 24, 1906.	180 00
Lunenburg, Post Office. Supply of coal.	John B. Young.	" 17, 1906.	204 75
New Glasgow, Post Office. Alterations and fittings.	D. Holmes.	July 3, 1906.	994 00
" Post Office. Supply of coal.	Chs. W. Ives.	Sept. 18, 1906.	207 78
North Sydney, Post Office. Supply of coal.	The Cape Breton Coal Mining Co., Ltd.	" 18, 1906.	228 80
Pictou, Custom House and Post Office. Supply of coal.	"	" 18, 1906.	204 00
" Public Building. Sidewalks.	R. S. Lowe.	Aug. 3, 1906.	890 00
Springhill, Post Office. Supply of coal.	Cumberland Ry. & Coal Co.	Sept. 22, 1906.	206 40
Sydney, Post Office. Supply of coal.	Thomas Routledge.	" 16, 1906.	326 00
Sydney, Mines, Post Office. Supply of coal.	Angus McLean.	Oct. 2, 1906.	135 00
" Post Office. Supply of coal.	Sydney Coal Company.	" 2, 1906.	6 00
" Public Building. Electric wiring.	W. A. Mackay & Co.	July 9, 1906.	500 00
Truro, Post Office. Supply of coal.	Chs. W. Ives.	Sept. 18, 1906.	239 63
Windsor, Post Office. Supply of coal.	Fred. W. Dimock.	" 15, 1906.	271 43
Yarmouth, Post Office. Supply of coal.	E. Baker & Co.	" 19, 1906.	369 00
<i>Prince Edward Island.</i>			
Charlottetown, Dominion Building. Supply of coal.	A. Pickard & Co.	Sept. 17, 1906.	618 26
" Dominion Building. Supply of coal.	Peake Bros. & Co.	" 17, 1906.	53 11
Montague, Post Office. Supply of coal.	Geo. Wightman.	" 17, 1906.	107 16
" Post Office. Supply of coal.	A. Pickard & Co.	" 17, 1906.	138 18
Souris, Public Building. Granolithic sidewalks, &c.	F. S. Macdonald.	Nov. 24, 1906.	1,086 00
" Public Building. Fittings.	Mark Wright Furnishing Co.	Mar. 27, 1907.	1,718 00
Summerside, Post Office. Supply of coal.	R. T. Holman, Ltd.	Sept. 15, 1906.	351 83
<i>New Brunswick.</i>			
Bathurst, Post Office. Supply of coal.	B. M. Lannegan.	Sept. 17, 1906.	300 58
Campbellton, Post Office. Supply of coal.	Chs. Powell.	Oct. 10, 1906.	333 68
Chatham, Post Office. Supply of coal.	Ed. Johnson.	Sept. 17, 1906.	160 00
" Post Office. Supply of coal.	Minudie Coal Co., Ltd.	" 25, 1906.	222 81
Dalhousie, Post Office. Supply of coal.	Chs. Powell.	Oct. 10, 1906.	287 95
Fredericton, Post Office. Supply of coal.	Pat. Farrell.	Sept. 14, 1906.	248 55
Marysville, Post Office. Supply of coal.	"	" 14, 1906.	18 28
Moncton, Post Office. Supply of coal.	Minudie Coal Co., Ltd.	" 25, 1906.	266 29
Newcastle, Post Office. Supply of coal.	"	" 25, 1906.	174 60
" Post Office. Supply of coal.	Geo. S. Stohart.	" 22, 1906.	177 25
Richibucto, Post Office. Supply of coal.	J. & T. Jardine.	Oct. 5, 1906.	195 00
St. John, Custom House. Long room, oak screen.	F. S. Heans.	July 8, 1906.	1,065 00
" Custom House. Supply of coal.	R. P. & W. F. Starr.	Sept. 14, 1906.	1,634 61
" Custom House. Supply of coal.	Vroom & Arnold.	" 14, 1906.	36 86

SESSIONAL PAPER No. 19

No. 1.—CONTRACTS let by the Department of Public Works, &c.—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—Continued.			\$ cts.
New Brunswick—Concluded.			
St. John Post Office, West Carleton. Supply of coal.	R. P. & W. F. Starr.....	Sept. 14, 1906..	51 65
" Post Office, City. Supply of coal.....	" " ".....	" 14, 1906..	740 34
" Savings Bank. Supply of coal.....	" " ".....	" 14, 1906..	260 42
" Immigration Building. Supply of coal.....	" " ".....	" 14, 1906..	1,004 15
St. Stephen, Post Office. Supply of coal.....	W. C. Purves.....	" 15, 1906..	150 00
Sussex, Post Office. Supply of coal.....	Arthur Keith.....	" 17, 1906..	338 20
Tracadie, Lazaretto. Supply of coal.....	B. M. Lannegan.....	" 17, 1906..	486 64
Woodstock, Post Office. Supply of coal.....	W. F. Dibblee & Son.....	" 15, 1906..	166 84
" Armoury. Furniture and fittings.....	Henderson Furniture Co.....	" 19, 1906..	3,500 00
" Public Building. Supply of electric cur't	The Woodstock Elec. Ry. & Power Co.....	July 25, 1906..	per qr. 40 00
Quebec.			
Acton Vale, Post Office. Supply of coal.....	S. E. Desmarais & Co.....	Oct. 15, 1906..	126 56
Aylmer, Post Office. Supply of coal.....	The C. C. Ray Co., Ltd.....	Sept. 11, 1906..	216 54
Berthier (en haut), Public Building. Alterations to.	Chs. Marcoux estate.....	Jan. 5, 1907..	485 53
Berthierville, Post Office. Supply of coal.....	F. O. Lamarche.....	Oct. 15, 1906..	95 84
Buckingham, Public Building. Supply of coal.....	E. M. Lapierre.....	Sept. 21, 1906..	134 28
Chicoutimi, Public Building. Wiring.....	Adolphe Beaulieu.....	Oct. 31, 1906..	1,125 00
" Public Building. Heating apparatus.....	Ovide Guay.....	Mar. 11, 1907..	1,725 00
Coaticook, Post Office. Supply of coal.....	W. C. Webster & Son.....	Sept. 14, 1906..	260 30
Drummondville, Post Office. Supply of coal.....	Elie Nap. Turner.....	" 18, 1906..	120 00
Dundee, Custom House. Supply of coal.....	A. S. Matthews.....	" 15, 1906..	33 75
Farnham, Post Office. Supply of coal.....	J. A. Séguin.....	" 29, 1906..	67 50
Fraserville, Post Office. Supply of coal.....	N. Dion.....	" 15, 1906..	270 00
" Public Building. Repairs to.....	Alfred Forcier.....	Oct. 9, 1906..	1,725 00
Grosse Isle, Quarantine Station. Building for disinfection.....	A. Dugal.....	Nov. 20, 1906..	4,689 00
Granby, Post Office. Supply of coal.....	P. Phoenix.....	Sept. 17, 1906..	227 50
Hochelaga, Post Office. Supply of coal.....	The T. F. Moore Co.....	" 4, 1906..	121 80
Hull, Post Office. Supply of coal.....	The C. C. Ray Co., Ltd.....	" 11, 1906..	217 00
Iberville, Construction of a Post Office Building.....	A. G. Marshall.....	July 26, 1906..	8,150 00
" Post Office. Heating apparatus.....	" " ".....	Feb. 4, 1907..	520 00
Joliette, Post Office. Supply of coal.....	M. H. Leprohon.....	Sept. 15, 1906..	206 59
Lachine, Post Office. Supply of coal.....	Jos. Allard.....	" 17, 1906..	104 10
" Post Office. Electric wiring.....	J. O. Desforges.....	Nov. 15, 1906..	150 00
Laprairie, Post Office. Supply of coal.....	H. Brossard.....	Sept. 15, 1906..	155 00
L'Assomption, Post Office. Supply of coal.....	Louis Desmarais.....	July 17, 1906..	136 00
Levis, Post Office. Heating apparatus.....	Jos. Couture.....	July 10, 1906..	1,500 00
" Post Office. Tower clock.....	Geo. Guénet.....	Nov. 20, 1906..	per an 250 00
" Post Office. Supply of water.....	City of Levis.....	Jan. 11, 1907..	160 00
Longueuil, Post Office. Supply of coal.....	Bruno Normandin.....	Sept. 14, 1906..	950 00
" Post Office. Retaining wall to.....	Wm. Baker.....	Oct. 24, 1906..	300 00
Montmagny, Public Building. Electric wiring.....	Chs. Vézina.....	" 19, 1906..	750 00
" Public Building. Heating apparatus.....	Proulx & Mathurin.....	Feb. 27, 1907..	
Montreal, Postal Station 'B.' Pile work for foundations.....	Jos. Bourque & Co.....	July 18, 1906..	p. 1. ft. 0 43
" Custom House. Lower stone cornice covered with copper.....	J. B. Pauzé & Co.....	Sept. 17, 1906..	1,050 00
" Post Office. Alterations, &c., to Money Order.....	" " ".....	Oct. 5, 1906..	2,310 00
" Post Office. Supply of three revolving doors.....	Can. Revolving Door Co.....	Nov. 28, 1906..	1,950 00
" Post Office. Heating apparatus.....	Jos. Thibault.....	Feb. 15, 1907..	365 00
" Custom House. Supply of coal.....	The T. F. Moore Co.....	Sept. 4, 1906..	688 93
" Examining Warehouse. Supply of coal.....	" " ".....	" 4, 1906..	1,199 57
" Post Office. Supply of coal.....	" " ".....	" 4, 1906..	864 92
" Postal Station 'B.' Supply of coal.....	" " ".....	" 4, 1906..	114 54
" Revenue Building. Supply of coal.....	" " ".....	" 4, 1906..	263 12
Nicolet, Post Office. Heating apparatus.....	Geo. Morrisette.....	Feb. 28, 1907..	980 00
Nominingue, Immigration Building. Construction of.	Z. Gauthier.....	Oct. 19, 1906..	3,400 00
Quebec, Construction of a freight shed for immigration	The C. P. Ry. Co.....	Aug. 4, 1906..	13,500 00
" Trachoma Hospital. Wiring.....	P. C. Lacasse.....	Oct. 10, 1906..	1,737 60
" Detention Hospital. Heating apparatus.....	Martel & Langelier.....	Jan. 12, 1907..	3,000 00
" Examining Warehouse. Additional fittings.....	Chs. Vézina.....	Jan. 3, 1907..	1,823 00
" Detention Hospital. Supply of coal.....	M. Madden.....	Sept. 20, 1906..	299 29
" Post Office. Supply of coal.....	" " ".....	" 20, 1906..	49 25
" Gov. Gen'l. Quarters. Supply of coal.....	" " ".....	" 20, 1906..	504 73
" Cullers' Office. Supply of coal.....	Jos. Gingras.....	" 21, 1906..	174 67
" Custom House. Supply of coal.....	" " ".....	" 21, 1906..	602 33
" Examining Warehouse. Supply of coal.....	" " ".....	" 21, 1906..	637 84
" Immigration Office. Supply of coal.....	" " ".....	" 21, 1906..	321 47
" Post Office. Supply of coal.....	" " ".....	" 21, 1906..	641 79
" St. Roch, Post Office. Supply of coal.....	" " ".....	" 21, 1906..	41 10
" Weights and Measures Offices. Supply of coal	" " ".....	" 21, 1906..	69 87

7-8 EDWARD VII., A. 1908

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS— <i>Continued.</i>			\$ cts.
<i>Quebec—Concluded.</i>			
Richmond, Post Office. Supply of coal.....	S. E. Desmarais & Co.	Oct. 15, 1906.	248 60
Rimouski, Post Office. Supply of coal.....	H. G. Lepage.	Sept. 26, 1906.	181 98
" Public Building. Electric wiring.....	A. A. Portugais.	Aug. 26, 1906.	573 00
St. Henri, Post Office. Supply of coal.....	The T. F. Moore Co.	Sept. 4, 1906.	123 94
St. Hyacinthe, Inland Revenue. Supply of coal.....	C. Rouleau & Fils.	13, 1906.	142 92
St. Hyacinthe, Public Building. Wiring.....	La Cie. du Gas, Electricité Pouvoirs de St. Hyacinthe.	Aug. 24, 1906.	845 42
" Armoury. Fittings.....	L. P. Morin & Fils.	Mar. 21, 1907.	350 00
St. Jérôme, Post Office. Supply of coal.....	S. G. Laviolette.	Oct. 2, 1906.	252 15
St. Johns, Post Office. Supply of coal.....	D. Godin.	Sept. 17, 1906.	117 48
" Post Office. Building, construction of.....	J. J. Collins.	Dec. 14, 1906.	28,000 00
St. Louis du Mile End, Post Office. Supply of coal.....	The T. F. Moore Co.	Sept. 4, 1906.	199 32
Sherbrooke, Post Office. Supply of coal.....	Codere, Fils & Cie.	Aug. 7, 1906.	342 28
Sorel, Post Office. Supply of coal.....	Leclaire & Fils.	Sept. 18, 1906.	342 00
Terrebonne, Post Office. Supply of coal.....	J. O. J. Duguay.	" 15, 1906.	157 32
Thetford Mines, Post Office. Supply of coal.....	Jos. Demers.	" 15, 1906.	244 63
Three Rivers, Post Office. Supply of coal.....	Geo. Leprohon.	" 19, 1906.	297 23
" Custom House. Supply of coal.....	Geo. Leprohon.	" 19, 1906.	490 77
" Drill Hall. Heating apparatus.....	Martel & Langelier.	July 25, 1906.	1,425 00
" Drill Hall. Electric wiring.....	J. T. Desilets.	Aug. 30, 1906.	2,069 00
" Drill Hall. Mastic floor.....	Jos. Bourque.	Sept. 19, 1906.	1,100 00
Valleyfield, Post Office. Supply of coal.....	Beamer & Chasle.	" 13, 1906.	374 34
Victoriaville, Post Office. Supply of coal.....	Octave Gaudet.	" 14, 1906.	108 75
<i>Ontario.</i>			
Almonte, Post Office. Supply of coal.....	Wm. McArthur.	Sept. 14, 1906.	188 50
Amherstburg, Post Office. Supply of coal.....	Falls Bros.	" 15, 1906.	169 00
Arnprior, Post Office. Supply of coal.....	R. S. Drysdale.	" 14, 1906.	239 82
" Post Office. Tower clock.....	Goodwin & White.	Jan. 12, 1907.	1,868 00
Barrie, Post Office. Supply of coal.....	Miekie, Dymont & Son.	Sept. 14, 1906.	232 75
Belleville, Post Office. Supply of coal.....	Downy Coal Company.	" 14, 1906.	405 90
Berlin, Post Office. Supply of coal.....	Boehmer & Company.	" 19, 1906.	269 67
Bowmanville, Post Office. Supply of coal.....	McClellan & Co.	" 19, 1906.	141 50
Brampton, Post Office. Supply of coal.....	Peaker & Son.	" 18, 1906.	188 70
Brantford, Post Office. Supply of coal.....	Wilson Coal Co.	" 15, 1906.	433 82
" Post Office. Electric wiring.....	Lyons Electric Co.	" 14, 1906.	468 00
Bridgeburg, Post Office. Supply of coal.....	Isaac White.	" 22, 1906.	180 00
Brockville, Post Office. Supply of coal.....	The Central Canada Coal Co.	" 14, 1906.	357 75
" Post Office. Repairs to roof.....	J. E. Deegan & Co.	July 23, 1906.	856 00
Burford, Armoury. Fittings.....	Nagle & Mills.	Oct. 15, 1906.	952 00
Carleton Place, Post Office. Supply of coal.....	Taylor Bros. & Co.	Sept. 13, 1906.	123 50
Cayuga, Post Office. Supply of coal.....	A. J. Grant.	" 29, 1906.	122 54
Chatham, Post Office. Supply of coal.....	A. R. Crowe.	" 14, 1906.	228 21
Clinton, Post Office. Supply of coal.....	James Hamilton.	" 25, 1906.	210 47
Cobourg, Post Office. Supply of coal.....	Estate of John Duncan.	" 14, 1906.	219 60
" Armoury. Bowling alleys.....	Ketchum & Co.	" 12, 1906.	1,050 00
Cornwall, Post Office. Supply of coal.....	W. D. Morris.	" 19, 1906.	290 00
Deseronto, Post Office. Supply of coal.....	The Rathbun Company.	Oct. 4, 1906.	271 55
Dundas, Post Office. Supply of coal.....	Chs. Sturrock.	Sept. 19, 1906.	40 00
Fort William, Post Office. Supply of coal.....	Jos. Murphy.	" 19, 1906.	400 00
Galt, Post Office. Supply of coal.....	Scott & Hogg.	" 14, 1906.	241 25
" Post Office. Plumbing works.....	Scott & Bennett.	" 14, 1906.	1,611 00
Gananoque, Post Office and Custom House. Supply of coal.....	Thomas Roach.	Oct. 15, 1906.	225 00
Goderich, Post Office. Supply of coal.....	Robert Elliott.	Sept. 17, 1906.	235 38
Guelph, Post Office. Supply of coal.....	Kloepfer & Co.	" 15, 1906.	426 20
Hamilton, Post Office. Supply of coal.....	R. E. Clisdell.	" 15, 1906.	494 38
" Office. Supply of coal.....	R. E. Clisdell.	" 15, 1906.	494 38
" New Drill Hall. Construction of.....	Geo. F. Webb.	July 31, 1906.	219,789 00
" Post Office. Alterations, &c. Fittings.....	W. J. Reid.	Dec. 4, 1906.	10,638 00
Ingersoll, Post Office. Supply of coal.....	Wm. Ross.	Sept. 28, 1906.	207 80
Kingston, Post Office. Supply of coal.....	P. Walsh.	" 14, 1906.	369 00
" Custom House. Supply of coal.....	P. Walsh.	" 14, 1906.	539 15
" R. M. College. Drain for stables.....	Wm. R. Clugston.	" 5, 1906.	1,398 00
" Artillery Barracks. Heating apparatus.....	Mckelvey & Birch.	Oct. 24, 1906.	1,864 00
" Artillery Barracks. Tile drain Artillery Park.....	H. W. Watts.	" 3, 1906.	1,273 00
Lindsay, Post Office. Supply of coal.....	McLennan & Co.	Sept. 14, 1906.	189 89
London, Custom House. Supply of coal.....	R. E. Clisdell.	" 15, 1906.	870 46
" Post Office. Supply of coal.....	R. E. Clisdell.	" 15, 1906.	518 45
" Post Office. Fittings.....	Wm. Tytler.	July 3, 1906.	8,270 00
" Military Store Building. Wiring.....	Rogers Elect. Co.	Mar. 7, 1907.	782 00

SESSIONAL PAPER No. 19

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—Continued.			\$ cts.
Ontario—Continued.			
Napanee, Post Office. Supply of coal.....	Chs. Stevens.....	Oct. 1, 1906..	236 25
Niagara Falls, Post Office. Supply of coal.....	J. E. Hutchings.....	Sept. 14, 1906..	166 15
North Bay, Post Office. Building, construction of ..	W. J. McGillivray and P. Labelle.....	July 30, 1906..	33 879 00
" Post Office. Electric wiring.....	Burrowes & Parmelee.....	Nov. 20, 1906..	889 00
Orangeville, Post Office. Supply of coal.....	Clarke & Hannah.....	Sept. 21, 1906..	162 50
Orillia, Post Office. Supply of coal.....	The Tait Carss Lumber Co.....	Oct. 1, 1906..	213 90
Ottawa, Experimental Farm. Supply of coal.....	The C. C. Ray Co., Ltd.....	Sept. 11, 1906..	887 61
" Experimental Farm. Supply of coal.....	John Heney & Son.....	" 12, 1906..	198 55
" Post Office. Metallic fittings. Railway mail service.....	The Ottawa Speciality M'fg Co.....	July 3, 1906..	2,200 00
" Post Office. Money Order Exchange. Fittings.....	L. W. Hutchison.....	" 5, 1906..	1,369 30
" Post Office. International Money Order Exchange. Furniture and fittings.....	L. W. Hutchison.....	" 25, 1906..	2,070 00
" Post Office. Interior fittings.....	L. W. Hutchison.....	Aug. 7, 1906..	2,950 00
" Post Office. Accountants' office. Metallic fittings.....	Office Speciality M'fg Co.....	" 11, 1906..	10,021 90
" Ry's and Canals Dept. Metallic fittings.....	L. W. Hutchison.....	" 14, 1906..	16,339 90
" Post Office. Postal Note Branch. Metallic fittings.....	The Eclipse M'fg Co., Ltd.	Sept. 17, 1906..	2,850 00
" House of Commons. Ventilation system.....	Canadian Buffalo Forge Co. Ltd.....	" 26, 1906..	4,800 00
" Post Office. Marble and tile for lobby.....	A. K. Mills & Son.....	" 4, 1906..	2,575 00
" Printing Bureau. Hard floor.....	Doran & Devlin.....	Oct. 6, 1906..	2,200 00
" Supreme Court Library. Additions &c. to Archives Building. Passenger elevator.....	Doran & Devlin.....	Sept. 17, 1906..	11,995 00
" Militia Department. Metallic fittings.....	Fensom Otis Elevator Co., Ltd.....	Nov. 12, 1906..	4,000 00
" Interior Dept. Mines Branch. Steel fittings	The Office Speciality M'fg Co., Ltd.....	" 3, 1906..	2,595 00
" Observatory. Metallic steel cabinet for photograph room.....	The Eclipse M'fg Co., Ltd.....	" 22, 1906..	585 50
" Interior Dept. Steel case for records.....	The Eclipse Mfg. Co., Ltd.....	" 22, 1906..	465 00
" Interior Dept. Steel fittings for Mines Br.....	The Eclipse Mfg. Co., Ltd.....	" 22, 1906..	477 50
" Railways and Canals Dept. Steel fittings.....	Office Speciality Mfg. Co., Ltd.....	" 22, 1906..	606 50
" Parliament Buildings. Extension.....	W. H. McGillivray & P. Labelle.....	Dec. 8, 1906..	21,970 00
" Post Office Dept. Postal note branch. Steel fittings.....	J. E. A. Fitzgerald.....	Jan. 9, 1907..	237,433 00
" National Art Gallery. Lighting.....	Office Spec. Mfg. Co., Ltd.....	" 11, 1907..	10,517 00
" Royal Mint. Wiring.....	Ahearn & Soper, Ltd.....	" 28, 1907..	742 00
" Royal Mint. Heating apparatus.....	Ahearn & Soper, Ltd.....	Feb. 15, 1907..	4,840 00
" Public Building. Electric battery for cement laboratory.....	Sullivan & Langdon.....	" 12, 1907..	4,789 00
" Senate. Installation of 240 Nernst lamps.....	The Can. Gen. Elec. Co.....	" 25, 1907..	826 50
Paris, Post Office. Supply of coal.....	Ahearn & Soper, Ltd.....	Jan. 16, 1907..	4,750 00
Pembroke, Post Office. Supply of coal.....	Geo. E. Taylor.....	Sept. 15, 1906..	129 95
Peterborough, Post Office and Custom House. Supply of coal.....	W. D. Morris.....	" 19, 1906..	230 75
" Post Office and Custom House. Supply of coal.....	J. E. A. Fitzgerald.....	" 21, 1906..	28 51
" Post Office and Custom House. Supply of coal.....	The Peterborough Fuel & Cartage Co.....	" 27, 1906..	206 80
" Post Office. Plumbing work.....	D. Bellegheem.....	July 25, 1906..	1,035 50
" Drill Hall. Construction of.....	Geo. A. Proctor.....	Feb. 28, 1907..	125,190 54
Pictou, Post Office. Supply of coal.....	Haddon & Ostrander.....	Sept. 15, 1906..	222 75
Port Arthur, Post Office. Supply of coal.....	Louis Walsh Coal Co.....	Oct. 2, 1906..	200 00
Port Arthur, Public Building. Alterations.....	M. G. McKinnon.....	" 20, 1906..	930 00
Port Hope, Post Office. Supply of coal.....	Brown & Co.....	Sept. 17, 1906..	308 00
Prescott, Post Office and Custom House. Supply of coal.....	James Buckley.....	" 13, 1906..	250 70
Rat Portage, Post Office. Supply of coal.....	Windatt & Co.....	Oct. 19, 1906..	452 39
St. Catharines, Post Office. Supply of coal.....	H. M. Rogers.....	Sept. 14, 1906..	261 20
St. Marys, construction of a Post Office Building.....	R. Cameron.....	" 29, 1906..	22,500 00
St. Thomas, Post Office. Supply of coal.....	F. M. Griffin.....	Sept. 13, 1906..	264 00
Sandwich, Public Building. Fittings.....	Judson McLean.....	Oct. 30, 1906..	1,550 00
Sarnia, Post Office. Fittings.....	Geo. A. Proctor.....	Sept. 21, 1906..	1,166 00
" Post Office. Supply of coal.....	Clark Coal Co.....	" 17, 1906..	301 50
Sault Ste. Marie, Post Office. Supply of coal.....	B. Cohen.....	" 18, 1906..	175 00
Smith Falls, Post Office. Supply of coal.....	H. A. Crate.....	" 14, 1906..	155 25
Stratford, Post Office. Supply of coal.....	Andrew Johnston & Son.....	Oct. 3, 1906..	302 30
" Post Office. Addition and alteration.....	D. Easson.....	Jan. 11, 1907..	850 00
Strathroy, Post Office. Supply of coal.....	Alex. Reid.....	Sept. 14, 1906..	174 22
" Post Office. Fittings.....	Geo. McBeth.....	Mar. 4, 1907..	420 00

7-8 EDWARD VII., A. 1908

No. 1.—CONTRACTS let by the Department of Public Works, &c.—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—Continued.			\$ cts.
Ontario—Continued.			
Toronto, Post Office. Supply of coal.....	R. E. Clisdell.....	Sept. 15, 1906..	113 82
" Custom House. Supply of coal.....	The Elias Rogers Co.....	" 19, 1906..	321 42
" Examining Warehouse. Supply of coal.....	"	" 19, 1906..	445 20
" Revenue Office. Supply of coal.....	"	" 19, 1906..	37 99
" Custom House. Supply of coal.....	The Conger Coal Co	" 19, 1906..	584 58
" Examining Warehouse. Supply of coal.....	"	" 19, 1906..	812 03
" Post Office. Supply of coal.....	"	" 19, 1906..	1,722 69
" Revenue Office. Supply of coal.....	"	" 19, 1906..	223 83
" Post Office. Electric wiring.....	Bennett & Wright.....	July 24, 1906..	2,390 00
" Post Office. Lathing and plastering.....	Hodge & Son.....	" 31, 1906..	3,540 00
" General Post Office. Painting and glazing.....	F. C. Davis	" 31, 1906..	1,042 00
" Custom House. Marble and tile works, &c.....	Hoidge Marble Co.....	" 20, 1906..	7,150 00
" General Post Office. Heating apparatus.....	Bennett & Wright.....	Aug. 8, 1906..	2,200 00
" Post Office. Carpentry work.....	Wm. Munro & Son.....	" 31, 1906..	5,360 00
" Postal station 'F.' Heating apparatus.....	Bennett & Wright.....	Sept. 26, 1906..	1,570 00
" Postal station 'F.' Tile floor and fittings.....	The Chs. Rogers & Son Co., Ltd.....	Oct. 5, 1906..	4,850 00
" General Post Office. Concrete floor.....	The Alfred Gardner & Co.....	" 19, 1906..	900 00
" Post Office. Fittings, &c.....	Chs. Rogers & Sons Co.....	Feb. 22, 1907..	3,000 00
Trenton, Post Office. Supply of coal.....	Chs. Crowe.....	Sept. 13, 1906..	185 50
Walkerton, Post Office. Supply of coal.....	S. W. Vogan.....	Sept. 28, 1906..	208 73
Windsor, Post Office. Supply of coal.....	F. N. Scully.....	" 13, 1906..	468 15
Wingham, Post Office. Fittings.....	S. L. Kyle.....	July 26, 1906..	2,410 00
" Post Office. Granolithic sidewalks.....	Forest City Paving Co.....	Aug. 1, 1906..	1,950 00
" Post Office. Electric wiring.....	W. H. Green.....	Sept. 22, 1906..	480 00
Woodstock, Post Office. Supply of coal.....	The McIntosh Coal Co.....	" 12, 1906..	270 10
" Armoury sidewalks.....	Wm. Fisher.....	July 18, 1906..	Sch. of rates.
Manitoba.			
Brandon, Post Office. Supply of coal.....	Robert Purdon.....	Sept. 17, 1906..	728 00
" Experimental Farm. Supply of coal.....	"	" 17, 1906..	75 54
" Post Office. Alterations to interior fittings.....	P. McGregor.....	Oct. 6, 1906..	800 00
" Experimental Farm. Supply of coal.....	The Can. Coal and Con. Co.....	Sept. 17, 1906..	
" Post Office. Supply of coal.....	"	" 17, 1906..	
" Immigration Building. Supply of coal.....	"	" 17, 1906..	
St. Boniface, Post Office Building. Construction of.....	J. McDiarmid Co.....	Mar. 4, 1907..	20,255 00
Winnipeg, Post Office. Supply of coal.....	D. E. Adams.....	Sept. 17, 1906..	2,310 55
" Immigration Hall. Supply of coal.....	Western Coal Co.....	" 17, 1906..	587 82
" New Immigration Building. Supply of coal.....	"	" 17, 1906..	1,186 11
" Hospital. Supply of coal.....	"	" 17, 1906..	51 40
" Custom House. Supply of coal.....	"	" 17, 1906..	88 55
" Immig. Office and Shed. Supply of coal.....	"	" 17, 1906..	
" Indian Office and Crown Timber Office. Supply of coal.....	"	" 17, 1906..	
" Examining Warehouse. Supply of coal.....	"	" 17, 1906..	
" Fort Osborne. Forge Building.....	J. McDiarmid & Co.....	Oct. 9, 1906..	2,600 00
" New Immig. Building. Electric elevator.....	Wm. Malloch & Co.....	Aug. 1, 1906..	3,440 00
Alberta.			
Calgary, Immigration Shed. Supply of coal.....	C. S. Lott.....	Sept. 18, 1906..	58 40
" Post Office. Supply of coal.....	"	" 18, 1906..	484 18
" Post Office. Heating apparatus.....	" Alberta Bldg. Co., Ltd.....	" 11, 1906..	4,600 00
" Post Office. Lighting.....	No. 1-west Electric Co.....	Oct. 2, 1906..	3,200 00
Edmonton, Dominion Lands Office. Supply of coal.....	Milner & Co.....	Sept. 24, 1906..	122 21
" Immigration Building. Supply of coal.....	The Edmonton Coal Co., Ltd.....	" 21, 1906..	154 60
" Immigration Building. Wiring.....	North-west Elec. Co., Ltd.....	Jan. 11, 1907..	335 00
" Immig. Building. Heating apparatus.....	Standard Plumbing and Heating Co., Ltd.....	Feb. 19, 1907..	1,500 00
" Post Office Building. Construction of.....	May Sharp Construction Co., Ltd.....	Jan. 21, 1907..	214,552 00
Lethbridge Immigration Building. Supply of coal.....	C. S. Lott.....	Sept. 18, 1906..	241 87
Saskatchewan.			
Forest Nursery Station. Supply of coal.....	John Hunter.....	Sept. 26, 1906..	358 78
Indian Head, Experimental Farm. Supply of coal.....	"	" 26, 1906..	285 00
Regina, Post Office. Supply of coal.....	Whitmore Bros.....	" 17, 1906..	246 70
" Dominion Lands Office. Supply of coal.....	"	" 17, 1906..	580 00
" Public Building. Excavation, &c.....	Snyder Bros.....	July 14, 1906..	Sch. of rates.
" Post Office. Lean to.....	T. J. Little.....	Aug. 11, 1906..	941 00

SESSIONAL PAPER No. 19

No. 1.—CONTRACTS let by the Department of Public Works, &c.—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
HARBOURS AND RIVERS.			cts.
<i>Nova Scotia.</i>			
Baddeck. Construction of public wharf.....	Hugh McDonald.....	Mar. 2, 1907..	10,690 00
Charlo's Cove. Construction of a breakwater.....	W. H. Anderson & Jas. Parks.....	Sept. 28, 1906..	12,875 00
Culloden. Construction of a breakwater.....	Hugh McDonald.....	" 26, 1906..	5,850 00
Jersey Cove. Construction of a wharf and approach.....	Jas. W. Taylor.....	Oct. 31, 1906..	4,620 00
Middle Country Harbour. Construction of a wharf.....	T. P. Charleson.....	Mar. 1, 1907..	2,200 00
Oak Point. Construction of a public wharf.....	J. E. & H. Bigelow.....	Oct. 23, 1906..	7,200 00
Phinney's Cove. Construction of a public breakwater.....	T. D. Morrison.....	Feb. 27, 1907..	5,700 00
Poirierville. Construction of a public wharf.....		Sept. 19, 1906..	7,575 00
<i>Prince Edward Island.</i>			
Point Prim Island. Construction of a wharf.....	K. Coffin & J. Quinn.....	Mar. 4, 1907..	4,160 00
Souris. Repairs to breakwater.....	F. S. MacDonald.....	Nov. 21, 1906..	3,295 00
<i>New Brunswick.</i>			
Dalhousie. Block at the western end of wharf.....	J. B. McManus, Ltd.....	July 17, 1906..	6,230 00
Negro Point. Supply of 1,000 cubic yards of granite for breakwater.....	J. E. Kane.....	Oct. 29, 1906..	per c. y. 1 65
Sand Point (Rodney Slip). Dredging.....	G. S. Mayes.....	Sept. 21, 1906..	Sch. of rates.
<i>Quebec.</i>			
Batiscan River. Dredging.....	H. W. Prendergast.....	Aug. 11, 1906..	" " "
Beauharnois. Dredging.....	L. Cohen & Son.....	Oct. 31, 1906..	" " "
Berthier Channel. Dredging.....		July 17, 1906..	" " "
Blanche Shoals. Dredging.....	The T. F. Moore Co.....	" 3, 1906..	" " "
Cape Cove. Construction of a pier.....	John Burns.....	Aug. 1, 1906..	13,300 00
Chateauguay Basin. Dredging.....	L. Cohen & Son.....	Oct. 31, 1906..	Sch. of rates.
Coleraine. Construction of a landing pier.....	Pat. Kennedy.....	Feb. 18, 1907..	4,800 00
Como Wharf. Dredging.....	L. Cohen & Son.....	July 11, 1906..	Sch. of rates.
Doucet's Landing. Dredging.....	R. Macdonald.....	" 19, 1906..	" " "
Construction of a landing pier.....	N. Bourgeois.....	Feb. 8, 1907..	4,911 75
Godefroy River. Dredging.....	Ant. St. Pierre.....	Sept. 27, 1906..	Sch. of rates.
Grand Mechins. Construction of a wharf.....	J. J. Collins.....	Oct. 3, 1906..	26,900 00
Grosse Isle, Quarantine Station. Extension to wharf.	Nap. Trudel.....	Feb. 6, 1907..	22,467 00
Ile aux Foins. Dredging.....	L. Cohen & Son.....	July 11, 1906..	Sch. of rates.
L'Assomption River. Dredging.....	The General Construct. Co.....	Aug. 18, 1906..	" " "
Lambton. Construction of a landing pier.....	John Lowrey.....	Feb. 15, 1907..	7,750 00
Les Escoumains. Extension to wharf.....	T. P. Charleson.....	Nov. 23, 1906..	12,445 00
Maskinongé River. Dredging.....	The W. J. Poupore Co., Ltd.....	July 14, 1906..	Sch. of rates.
Montmagny. Construction of a wharf.....	Théophile Bernier.....	Oct. 29, 1906..	9,640 00
North River. Dredging.....	The General Construct. Co.....	July 16, 1906..	Sch. of rates.
Oka. Dredging.....	L. Cohen & Son.....	" 16, 1906..	" " "
Rigaud Channel. Dredging.....	".....	" 11, 1906..	" " "
Main Channel. Dredging.....	".....	" 11, 1906..	" " "
River St. Francis. Dredging.....	The Canada Improvemt. Co.....	" 17, 1906..	" " "
River du Loup (en haut). Dredging.....	The W. J. Poupore Co., Ltd.....	" 14, 1906..	" " "
River St. Louis (mouth). Dredging.....	The General Construct. Co.....	" 16, 1906..	" " "
River St. Maurice. Dredging.....	The W. J. Poupore Co., Ltd.....	" 14, 1906..	" " "
St. Francois, I.O. Approach to isolated crib.....	J. A. Lemay.....	Aug. 11, 1906..	24,000 00
St. Jean, I.O. Extension to wharf.....	Nap. Trudel.....	" 15, 1906..	12,280 00
St. Placide. Dredging.....	L. Cohen & Son.....	July 11, 1906..	Sch. of rates.
St. Valier. Landing pier.....	Lemay & Poliquin.....	Feb. 6, 1907..	10,995 00
Seven Islands. Construction of wharf and approach.....	North Shore Power, Ry. & Nav. Co., Ltd.....	Jan. 4, 1907..	29,990 00
Yamaska River. Dredging.....	The W. J. Poupore Co., Ltd.....	July 14, 1906..	Sch. of rates.
<i>Ontario.</i>			
Owen Sound. Pile concrete revetment wall.....	Green & Mackinnon.....	Nov. 21, 1906..	11,997 00
Port Arthur. Breakwater.....	M. J. Hogan.....	" 5, 1906..	363,000 00
" Dredging in the harbour.....	R. Weddell.....	Aug. 11, 1906..	Sch. of rates.
" Temporary pile breakwater.....	Canadian Northern Coal & Ore Dock Co., Ltd.....	Sept. 3, 1906..	13,000 00
<i>Manitoba.</i>			
St. Andrew's Rapids. Masonry of lock and dam, &c.....	H. Quinlan & A. W. Robertson.....	Oct. 11, 1906..	Sch. of rates.
" " Supply of 10,000 barrels of cement.....	The Owen Sound Portland Cement Co., Ltd.....	Mar. 23, 1907..	Sch. of rates.

7-8 EDWARD VII., A. 1908

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Concluded.*

Works.	Names of Contractors.	Date of Contract.	Amount.
HARBOURS AND RIVERS— <i>Concluded.</i>			\$ cts.
<i>British Columbia.</i>			
New Westminster, Dredge <i>King Edward</i> . Supply of coal.....	Gilley Bros.....	Aug. 7, 1906..	Per ton, 5 00
New Westminster, Snag Boat <i>Samson</i> . Supply of coal.....	.....	7, 1906..	5 00
VESSELS, DREDGES AND PLANT.			
Construction of three steel hopper barges.....	Collingwood Shipbuilding Co., Ltd.....	July 3, 1906..	70,500 00
Construction of a steel tug.....	.....	" 3, 1906..	53,500 00
Machinery for Dredge No. 6.....	A. Gerard.....	Dec. 14, 1906..	3,490 00
Swing engine for Dredge No. 6.....	Victoria Foundry Co.....	" 14, 1906..	1,375 00
Engine machinery for Dredge <i>St. Louis</i>	G. Law.....	" 14, 1906..	2,750 00
Machinery for Snag Boat for Skeena River, B.C.....	The Schaeke Machine Wks., Ltd.....	Jan. 10, 1907..	12,000 00
New boiler for Tug <i>Monitor</i>	A. Thomas & Son.....	Feb. 20, 1907..	3,659 00
C. G. S. <i>Tyrian</i> . Alterations in engine-room.....	Ferguson & Cox.....	" 26, 1907..	1,200 00
" Electric lighting.....	Hann & Walsh.....	Mar. 2, 1907..	4,500 00

SESSIONAL PAPER No. 19

No. 2.—STATEMENT of properties purchased or sold by the Department of Public Works during Nine months ended March 31, 1907.

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what Purpose.	Area.	Price.
1906.						
July	3 D. Johnston, <i>et ux.</i>	His Majesty	Land at Towney River, N.S.	Boat Harbour	2 $\frac{1}{2}$ acres	\$ cts.
"	3 W. W. Arentz, <i>et ux.</i>	"	Land at Towney River, N.S.	"	0 $\frac{1}{2}$ acres	450 00
"	3 R. O. Noy Co.	Federal Government	Beach lot at St. Valer, Que.	Wharf	11,530 ft.	24 00
"	6 Wm. Beveridge.	His Majesty	Land and wharf, Lavaltrie, P.Q.	"	"	200 00
"	11 W. B. Ross	"	Lots 5-6, Block II., Ladysmith, B.C. (site)	Public Building	"	800 00
"	12 C. C. King	"	Land at Oak Point, N.B.	Approach to wharf	"	1,500 00
"	23 La Corporation du College Ste. Marie de Montreal.	"	Lot corner of St. John and Water Sts., Shelburne.	Site Pub. Building	$\frac{1}{2}$ acre.	100 00
"	24 Jas. Clerkhill.	"	Land—Fort William, Ont.	Kaministiquia River	2 $\frac{1}{2}$ acres	1,500 00
Aug.	3 Sabra Harvey, <i>et al.</i>	"	Westerly 40 ft. lots 1, 2, 3 & 4 block 148, Saskatoon, Sask.	Improvements	"	9,000 00
"	9 Municipality of E. Ten-	"	Land at New Port Landing, N.S.	Site Pub. Building	"	270 00
"	14 T. S. Drennon	"	Lot 12 F. 1st Range, East Templeton.	"	"	"
"	17 Can. Pac. Ry. Co.	"	Land, Town of Port William, Ont.	Site, Pub. Building	4 acre.	1 00
"	25 Wm. A. Patterson	"	Land at Tatagamouche, N.S.	Kaministiquia River	1 $\frac{1}{2}$ acres	1 00
Sept.	31 J. T. Myers, <i>et ux.</i>	"	Lot at Jeddore, Oyster Pond, N.S.	Improvements	1 $\frac{1}{2}$ acre	500 00
"	1 Mary Boron, <i>et ux.</i>	"	Land at Charlo's Cove, N.S.	Right of way to wharf	1 $\frac{1}{2}$ acre	15 00
"	18 His Majesty	J. A. Haviland	All port lot No. 30 Chatham, N.B.	Wharf	1,760 sq. ft.	25 00
"	22 Rev. C. P. Côté	His Majesty	Land at Middle Country Harbour, P.Q.	Right of way to wharf	1 $\frac{1}{2}$ acre.	610 00
Oct.	9 Margaret Perreault, <i>et al.</i>	"	Land, Middle Country Harbour, N.S.	Right of way to wharf	22 x 178 ft.	Free grant.
"	15 Hercule Morin	"	St. Jean des Chailions—Land at, Quebec	For wharf	9,620 sq. ft.	75 00
"	19 M. T. Sullivan	"	Glacie Bay, N.S., land at	Approach to wharf	"	150 00
"	19 L. Morel	"	Land and wharf at Grand Riv. Beupré, Que.	For wharf	"	300 00
"	20 J. A. Mitchell	"	Victoria, Alta., River lot No. 6, T. 58.	Site—Pub. Building	26,969 ft.	4,999 00
"	23 P. & J. A. Dixon	"	North Head, Grand Manan, N.B. Land and wharf.	Wharf	"	1,200 00
"	30 Corporation of Three Rivers	"	Three Rivers, Que. Lots 1806, 7, 8, 9, and 1900, &c	Site for Pub. Building	1 acre.	300 00
Nov.	2 Urban Denis.	"	Paspéguac, Que. Base of Township of Cox.	Gov't. purposes.	"	2,000 00
Dec.	24 Mrs. Davidson, <i>et ux.</i>	"	Beaconsfield, N.S. Land at	For Drill Hall	6,600 ft.	Free grant.
"	31 F. B. MacLeod	"	Amherstburg, Ont., lots 6, 7	For wharf	16,200 sq. ft.	125 00
1907.						
Jan.	2 W. P. Foley, <i>et ux.</i>	"	Caracquet, N.B., land at	Improving Detroit Riv	$\frac{3}{4}$ acre.	5,500 00
"	10 Thos. Irwin	"	Cumberland, B.C., lot 12, Block 11	Right of way to wharf	30 per 282 ft. in sup.	700 00
"	15 E. Ménard, <i>et ux.</i>	"	L'Anse à Gilets, Que., strip of land.	Right of way to wharf	14,504 ft. in sup.	50 00
"	19 The Bras D'Or Line Co.	"	Marble Mountain, N.S., land	For wharf	14,540 ft. in sup.	200 00
Feb.	28 R. McDonald, <i>et ux.</i>	"	Marble Mountain, N.S., land	Improving Detroit Riv	$\frac{3}{4}$ acre.	600 00
"	1 Margaret Menzies	"	Avalon, Ont., lot	Wharf	2 $\frac{1}{2}$ acres, 3 roads, 8 perches, 34 ft.	100 00
"	10 Wm. Fries, <i>et al.</i>	"	L'Anse à Gilets, Que., land and wharf	Site for Pub. Building	3,723 sq. ft.	1,150 00
"	23 C. C. King, <i>et ux.</i>	"	Shelburne, N.S., land	Site for Breakwater	3,122 sq. ft.	1,500 00
March	11 Ann Martell, <i>et al.</i>	"	Main à Dieu, N.S., lot of land.	Immg. Building	"	200 00
"	19 L. L. Dionne	"	Péribonka, Que., land at	"	"	"

7-8 EDWARD VII., A. 1908

No. 3.—STATEMENT of Properties Leased to and by the Department of Public Works during the Nine months ended March 31, 1907.

Date of Lease.	Lessors.	Lessees.	Property Leased.	For what purpose.	Duration of Lease.	Annual Rental.
1906.						\$ cts.
July	3 A. E. Brown.	His Majesty	Montreal, stonelhouse, St. Antoine street.	Imng. purposes	1 year.	2,000 00 p annum.
Aug.	8 J. G. Nicholson, et al.	L. F. M. Globensky.	Battleford, Sask., lease of building.	Private enterprise	9 months.	20 00 p. month.
"	30 His Majesty	J. G. Kearns.	Ottawa, Sussex st., House No. 374.	"	8 months.	18 00 per. mo.
"	30 "	Mathilda Dube.	Ottawa, Sussex st., House No. 376.	"	"	18 00 "
"	30 "	J. C. Poirier.	Ottawa, Sussex st., House No. 384.	"	"	16 00 "
"	30 "	L. C. Poirier.	Ottawa, Sussex st., House No. 386.	"	"	16 00 "
"	30 "	Geo. Marton.	Ottawa, Sussex st., House No. 390.	"	"	13 00 "
"	30 "	Geo. Marton.	Ottawa, Sussex st., House No. 392.	"	"	13 00 "
"	30 "	J. R. Shaw.	Ottawa, Sussex st., House Messuage No. 426 1/2.	"	"	15 00 "
"	30 "	J. P. & F. W. Esmonde	Ottawa, St. Patrick st., No. 106.	"	"	8 33 "
"	30 "	J. G. Grant & Co.	Ottawa, Sussex st., Messuage No. 418.	"	"	10 00 "
"	30 "	S. Lépine.	Ottawa, Sussex st., Richelieu Hotel.	"	"	50 00 "
Sept.	13 Jas. W. Woods.	His Majesty	Ottawa, south side Slater st.	Gov't. Offices.	5 years.	27,350 06 p. annum
Oct.	21 The Canadian Northern Ry.	"	Edmonton, Alta., Land at	Gov't. purposes.	21 "	1 00 "
Nov.	5 His Majesty	Rev. C. Croucher	Yale B.C. Old Government grounds	Private enterprise	10 "	5 00 "
Dec.	12 Imperial Bank of Canada.	His Majesty	Toronto, Ont. Premises Young st.	For letter carriers.	6 months.	75 00 per mo.
"	29 A. Driscoll & S. H. Smith	"	Edmonton, Alta., Premises at.	Postal purposes.	2 years.	2,700 00p. annum.
1907.						
Jan.	7 C. E. Thibault.	"	Montreal. Lease of premises Amherst st.	Postal purposes.	3 years.	1,000 00p. annum.
Feb.	11 J. N. Trem.	"	Stettler, Alta. Lease of building.	Imng. purposes.	8 months.	200 00w. period.
Mar.	28 M. Jno. MacLeod.	"	Moose Jaw, Sask.	For Interior Dept.	7 years.	1,200 00 p. annum.
"	9 J. H. Gibson.	"	Markham, Ont.	Postal Station "p"	"	280 00 "
"	5 John Burn.	"	Toronto, Ont. Premises No. 739 Queen st.	Imng. purposes	2 months.	500 00 "
"	25 School District of Virdean.	"	Sedgewich, Alta. Lease of shed.	Imng. purposes	7 months.	210 00 w. period.
"	"	"	Virdean Man. Lease of building.	Imng. purposes	1 year.	250 00 p. annum

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, October 1, 1907.J. A. CHASSE,
Law Clerk.

LIST

OF SOME OF THE

ACTS OF PARLIAMENT

PASSED AT THE SESSION OF 1907

HAVING REFERENCE TO THE

DEPARTMENT OF PUBLIC WORKS OR WORKS UNDER ITS CHARGE

LIST of some of the Public Acts of the Parliament of Canada, passed at the Second Session of the Tenth Parliament, closed by Prorogation on the thirteenth day of July, 1906, and having reference to the Public Works Department or works under its charge (6 Edward VII.)

Subject.	Full title of the Statute.	Chapter.	Page in Statute Book.
Sums granted to His Majesty for the financial year ending March 31, 1907, and the financial year ending March 31, 1908, and the purposes for which they are granted.	An Act for granting to His Majesty certain sums of money for the financial period of nine months ending March 31, 1907, and the financial year ending March, 1908.	3	41
Advances to Harbour Commissioners of Montreal.	An Act to provide for further advances to the Harbour Commissioners of Montreal.	30	285
Power for Quebec Harbour Commissioners to borrow \$800,000.	An Act to increase the borrowing powers of the Quebec Harbour Commissioners.	36	299
Respecting R.S., 1906.....	An Act respecting the Revised Statutes, 1906..	43	329

J. A. CHASSE,
Law Clerk.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, November 1, 1906.

NATIONAL ART GALLERY

CURATOR'S REPORT

FOR THE FISCAL YEAR ENDED MARCH 31, 1907

NATIONAL ART GALLERY.

..

SIR,—I have the honour to report that the following additions, by purchase, were made to the National Art collection during the fiscal year ended March, 31, 1907:—

1. 'Ignatius Sanchez,' by Thos. Gainsborough, R.A.
2. 'Spanish Dance at Granada,' by François Flameng.
3. Portrait of H.I.M. King Edward VII.
4. Portrait of H.I.M. Queen Alexandra.

The net cost of Nos. 1 and 2, was \$2,850, and of Nos. 3 and 4, \$5,000.

The oil paintings and water colour paintings of the collection have been rearranged and renumbered by Mr. F. A. Brunnelle, R.C.A., who has prepared a catalogue which is being printed for distribution to visitors.

Eight thousand two hundred and twelve visitors registered at the gallery during the nine months.

I have the honour to be, sir,
Your obedient servant,

WALTER R. BILLINGS,
Acting Curator, National Art Gallery.

OTTAWA, August 10, 1907.

NAMES OF THE CHIEF OFFICERS
OF THE
DEPARTMENT OF PUBLIC WORKS
WITH
DATES OF APPOINTMENT, Etc., FROM 1841 TO 1907

NAMES OF THE CHIEF OFFICERS.

The names with the dates of the appointment, &c., of the principal Officials of the Department of Public Works, from 1841 to 1907.

Names.	Capacity or Office.	Date of Appointment.				
		Served.				
		From		To		
<i>Under Statute 4-5 Vic. Chap. 38.</i>						
CORPORATION BOARD OF WORKS.						
Killaly, Hon. H. H.	Chairman.					
Daly, Hon. D.	Members.	Dec.	29 1841	Oct.	3, 1844	
Harrison, S. B.						
Sullivan, R. B.						
Davidson, J. Esq.						
Begly, Thomas A.	Secretary.	Aug.	17 1841			
Keefer, Samuel.	Chief Engineer.	"	17 1841			
Rubidge, F. B.	Architect and Assistant Chief Engineer.	Dec.	15 1841			
NEW BOARD OF WORKS.						
Killaly, Hon. H. H.	Chairman.					
Daly, Hon. D.	Members.	Oct.	4 1844	June	8, 1846	
Draper, Hon. W. H.						
Morris, Hon. W.						
Papineau, Hon. D. B.						
<i>Under Statute 9th Vic. Cap. 37 &c.</i>						
Robinson, Hon. W. B.	Chief Commissioner.	June	22 1846	March	10, 1848	
Taché, Hon. E. P.	"	March	11 1848	Nov.	26, 1849	
Chabot, Hon. J.	"	Dec.	13 1849	March	31, 1850	
Merritt, Hon. W. H.	"	April	8 1850	Feb.	11, 1851	
Bourret, Hon. J.	"	Feb.	12 1851	Oct.	27, 1851	
Young, Hon. John.	"	Oct.	28 1851	Sept.	22, 1852	
Chabot, Hon. J.	"	Sept.	23 1852	Jan.	26, 1855	
Lemieux, Hon. F.	"	Jan.	27 1855	Nov.	25, 1857	
Alleyn, Hon. C.	"	Nov.	26 1857	Aug.	1, 1858	
Holton, Hon. L. H.	"	August	2 1858	"	6, 1858	
Sicotte, Hon. L. V.	"	"	7 1858	Jan.	10, 1859	
Rose, Hon. John.	"	Jan.	11 1859	June	12, 1861	
Cauchon, Hon. Jos.	Commissioner.	June	13 1861	May	23, 1862	
Tessier, Hon. U. J.		"	May	24 1862	"	27, 1863
Drummond, Hon. L. T.		"	"	28 1863	July	23, 1863
Laframboise, Hon. M.		"	July	24 1863	March	29, 1864
Chapais, J. C.	"	March	30 1864	June	30, 1867	
Casgrain, Hon. Chas. Eus.	Second commissioner.	July	9 1846	Feb.	29, 1848	
Cameron, Hon. M.	Assistant Commissioner.	March	11 1848	"	1, 1850	
Wettenhall, James Esq.	"	Feb.	2 1850	April	16, 1850	
Bourret, Hon. Jos.	"	April	17 1850	Feb.	11, 1851	
Killaly, Hon. H. H.	"	Feb.	12 1851	May	6, 1859	
Keefer, Samuel.	Deputy Commissioner.	May	6 1855	March	7, 1864	
Trudeau, Toussaint.		"	March	8 1864	May	29, 1868
Begley, Thos. A.	Secretary.	Feb.	10 1841	Oct.	31, 1858	
Trudeau, Toussaint.	"	Dec.	13 1859	March	7, 1864	
Braun Frederick.	"	March	8, 1864	July	1, 1867	
Page, John.	Chief Engineer.	Oct.	31, 1873	Oct.	1, 1879	
<i>Under Statute 31 Vic., Chap. 12.</i>						
McDougall, Hon. Wm.	Minister.	July	1, 1867	Dec.	7, 1869	
Langevin, C. B., Hon. Hector L.	"	Dec.	8, 1869	Nov.	6, 1873	
Mackenzie, Hon. Alexander.	"	Nov.	7, 1873	Oct.	16, 1878	
Tupper, C. B., K.C.M.G., Sir Charles.	"	Oct.	17, 1878	May	19, 1879	
Langevin, C.B., K.C.M.G. Sir Hector L.	"	May	20 1879	Aug.	11, 1891	

7-8 EDWARD VII., A. 1908

The names with the dates of the appointment, &c., of the principal Officials of the Department of Public Works, from 1841 to 1907.—*Concluded.*

Names.	Capacity or Office.	Date of Appointment.			
		Served.			
		From		To	
Smith, Hon. Frank.....	Acting Minister.....	Aug.	14, 1891	Jan.	10, 1892
Quimet, Hon. Joseph Aldéric.....	Minister.....	Jan.	11, 1892	April	30, 1896
Desjardins, Hon. Alphonse.....	".....	May	1, 1896	July	12, 1896
Tarte, Hon. J. Israel.....	".....	July	13, 1896	Oct.	21, 1902
Sutherland, Hon. James.....	".....	Nov.	11, 1902	May	3, 1905
Hyman, Hon. Charles S.....	".....	May	22, 1905		
Trudeau, Toussaint.....	Deputy Minister.....	"	29, 1868	Oct.	1, 1879
Baillargé, G. F.....	".....	Oct.	4, 1879	Dec.	31, 1890
Gobeil, A., I.S.O.....	".....	Jan.	1, 1891		
Braun, Frederick.....	Secretary.....	July	1, 1867	Sept.	30, 1879
Chapleau, S.....	".....	Oct.	1, 1879	Nov.	4, 1880
Ennis, F. H.....	".....	Nov.	5, 1880	Jan.	13, 1885
Gobeil, A.....	".....	Jan.	23, 1885	Dec.	31, 1890
Roy, E. F. E.....	".....	"	1, 1891	"	31, 1900
Gélinas, Fred.....	".....	June	8, 1901		
McPherson, D. A.....	Assistant Secretary.....	Jan.	18, 1891	April	11, 1893
Desrochers, Rodolphe Charles.....	".....	"	8, 1896		
Page, John.....	Chief Engineer.....	July	1, 1868	Oct.	1, 1879
Perley, H. F.....	".....	Nov.	25, 1880	July	10, 1891
Coste, Louis.....	".....	July	26, 1892	March	18, 1899
Lafleur, E. D.....	".....	Jan.	7, 1905		
Scott, Thos. S.....	Chief Architect.....	May	26, 1871	Oct.	30, 1881
Fuller, Thomas.....	".....	Oct.	31, 1881	June	30, 1897
Ewart, David, I.S.O.....	".....	Nov.	2, 1897		

NAMES
OF THE
OFFICIALS EMPLOYED ON THE SLIDES AND BOOMS OF CANADA
ON MARCH 31, 1907
WITH
DATES OF APPOINTMENT, SALARIES, ETC.

7-8 EDWARD VII., A. 1908

OFFICIALS EMPLOYED ON THE SLIDES AND BOOMS.

STATEMENT showing the Names, Dates of Appointment, Salaries, &c., of persons employed on the various Slides and Booms on March 31, 1907.

Name.	Date of Birth.	Position.	Where Employed.	Date of Appointment.	Salary.	Remarks.
<i>Collector of Public Works Revenue.</i>						
E. T. Smith.	Nov. 26, 1846.	Collector, chief clerk.	Ottawa.	July 1, 1889.	1,900 00 a year.	Date of first appointment to Crown timber office, Ottawa, June 23, 1864. Clerk in Dept. of Inland Revenue, July 1, 1870, to June 30, 1889. Transferred to civil list, with rank of first class clerk, January 5, 1892. Chief clerk, July 1, 1906.
F. N. Gagné.	Sept. 23, 1839	3rd class clerk.	"	Aug. 13, 1889	1,100 00 "	Employed during the season of navigation for eight months each year. Date of first appointment, May 31, 1880. Timber counter, Ottawa, for Dept. of Inland Revenue, January 7, 1884, to June 30, 1889.
James Steen.	June 17, 1830	Boatman	"	July 12, 1889.	60 00 a month.	Employed during the season of navigation for eight months each year.
J. Brassard.		"	"	Mar. 1, 1901	60 00 "	
<i>Saguenay District.</i>						
G. Bilodeau.	Jan. 29, 1841	Boom master.	Chicoutimi.	May 1, 1906	40 00 "	
Arin. Guellet.	June 15, 1879	" keeper.	"	Apr. 1, 1907	40 00 "	
William Dallaire.	Oct. 8, 1837	"	"	May 1, 1906	40 00 "	
Willie Dallaire.	Dec. 23, 1882.	"	"			
<i>St. Maurice District.</i>						
L. P. Dallaire.	June 11, 1866	Paymaster.	Three Rivers.	" 1, 1898.	66 66 "	
Jos. Pagé.	July 7, 1845	Boom master.	Mouth of St. Maurice.	Dec. 10, 1879	75 00 "	
Jos. Dick.	Apr. 15, 1848	Asst. boom master.	Three Rivers.	Apr. 21, 1898	75 00 "	
H. Bonrassa.	15, 1859	"	St. Flore.	Dec. 2, 1906	52 00 "	
Noise Masson.	Dec. 29, 1845	Boom master.	Grandes Pies.	Apr. 19, 1898	75 00 "	
N. Lyndburner.	July 12, 1855	"	Shawenigan Falls.	July 1, 1895	75 00 "	
N. Lapointe.	July 12, 1852	"	Shawenigan Bay.	Nov. 12, 1896	75 00 "	
Pierre Ducharme.	Oct. 8, 1856.	"	Grand Mère.	May 7, 1907.	75 00 "	
<i>Ottawa District.</i>						
G. P. Trophay.	Feb. 24, 1846.	Superintendent.	Ottawa.	July 6, 1873.	2,700 00 a year.	<i>Ottawa River Works.</i> —In addition to the above officers, &c., there are employed during the running season, one foreman on slide at \$1.50, and one assistant foreman at \$1.25 a day; also 25 to 30 labourers at \$1 to \$1.40 a working day.
J. Kent.	Jan. 28, 1864	Accountant.*	"	Aug. 1, 1886	1,400 00 "	
J. C. Scott.	June 27, 1865	Asst. engineer.	"	Apr. 1, 1889	5 00 a day.	
S. E. Smith.	May 25, 1869	Clerk.	"	Nov. 7, 1901	2 50 "	
Wm. Cain.	Apr. 22, 1860	Messenger.	"	Jan. 1, 1892.	1 50 "	

* Appointed accountant, October 4, 1904.

SESSIONAL PAPER No. 19

Pierre Saint-Pierre.	Mar. 13, 1853.	Deputy slide master.	Carillon.	June 1, 1897.	1 40	Actively employed about seven months. Oversees repairs in winter.
D. Nozau.	June 17, 1840.	Boom master.	Gatineau.	Mar. 21, 1878.	500 00 a year.	"
J. S. Gagnon.	Nov. 8, 1840.	Deputy slide master.	Chaudière.	June 14, 1858.	3 00 a day.	"
P. D. Gagné.	May 6, 1843.	"	Chats.	Apr. 24, 1898.	1 50	Employed about six months.
W. A. Slurree.	Oct. 27, 1842.	"	Chats.	July 12, 1882.	2 50	Oversees repairs in winter.
John Harvey.	May 22, 1851.	Slide master.	Arnprior.	May 15, 1880.	25 00 a month.	Actively employed about seven months.
Joseph McTea.	Mar. 26, 1859.	Boom master.	Springtown.	Mar. 10, 1888.	1 50 a day.	Employed about three months during season of navigation.
Patrick Barry.	" 27, 1858.	Slide master.	High Falls.	Sept. 7, 1881.	455 25 a year.	Employed four months during season of navigation.
Duncan McLaren.	Jan. 7, 1860.	Deputy slide master.	Portage du Fort.	Mar. 19, 1900.	480 00	Oversees repairs in winter.
N. Robson.	Apr. 2, 1878.	"	Black River.	Jan. 19, 1900.	2 00 a day.	"
W. S. Gagnon.	May 6, 1883.	"	Lower Patewawa.	Sept. 2, 1879.	1 25	"
J. H. Jennings.	Apr. 28, 1843.	"	Mountain.	Mar. 1, 1901.	1 25	"
Wm. Thompson.	May 3, 1843.	"	Calumet.	Apr. 10, 1899.	1 50	" 6 months
S. Moorhead.	July 27, 1851.	"	Coutonge.	May 1, 1904.	300 00 a year.	" 6 to 7 months
John Mullin.	July 27, 1851.	"	Des Jachims.	Apr. 1, 1901.	2 00 a day.	" 4 months
T. Costello.	June 13, 1851.	"	Dumoine.	April 1, 1901.	2 00	Employed three months during season of navigation. Will inspect works when required.
J. F. McGuire.	Dec. 16, 1842.	"	Cedar Lake Dam.	Mar. 3, 1905.	2 00	"
Jas. Carey.	July 6, 1850.	In charge.	Crooked Chute.	Nov. 15, 1896.	2 50	Paid during season of navigation, seven months.
A. McLeod.	Nov. 28, 1859.	Deputy slide master.	Chenaux.	Feb. 6, 1907.	100 00 a year.	Receives \$340 a year as lock master from Dept. of Railways and Canals.
Newcastle District.						
W. T. Junkin.	Nov. 2, 1867.	Slide master.	Fenelon Falls.	July 26, 1897.	100 00	"
J. G. Bates.		"	Burling Falls.			
Richieu District.						
C. Choquette.	Nov. 25, 1870.	Boom master.	Bellev Station.	Sept. 19, 1896.	600 00	Employed nine months.
Burlington Channel Swing Bridge.						
Wm. Onand.	July 6, 1837.	Bridge attendant.	Burlington.	July 1, 1902.	1 50 a day.	"
W. Hopkins.	June 4, 1846.	Bridge assistant.	Burlington.	Sept. 8, 1902.	1 50	"
H. Lampan.	Dec. 14, 1863.	"	"	Sept. 19, 1896.	1 50	"
Jas. Fustier.	Feb. 27, 1872.	"	"			
Yamaska Lock.						
O. Mineau.	July 4, 1844.	Lock keeper.	Yamaska.	" 1, 1885.	75 00 a month.	"
H. Lambert.	Aug. 20, 1844.	"	"	July 1, 1897.	40 00	"
Rivière du Lièvre Lock.						
Hugh R. Gorman.	Sept. 20, 1842.	Lock master.	Rivière du Lièvre.	Apr. 15, 1897.	480 00 a year.	Employed eight months.
Charles Brazeau.	Dec. 23, 1862.	Labourer.	"	Mar. 3, 1902.	35 00 a month.	"
Rivière Saint-Louis, Feeder.						
Julien Mounpelt.	Mar. 4, 1866.	Gate keeper.	Rivière St. Louis.	May 11, 1903.	10 00 a month.	"

NAMES
OF
PERSONS EMPLOYED ON THE VARIOUS GRAVING DOCKS
ON MARCH 31, 1907.
WITH
DATES OF APPOINTMENT, SALARIES, ETC.

7-8 EDWARD VII., A. 1908

GRAVING DOCK EMPLOYEES.

STATEMENT showing the names, Dates of Appointment, Salaries, &c., of persons employed on the various Graving Docks, March 31, 1907.

Name.	Position.	Where Employed.	Date of Appointment.	Salary.	Remarks.
<i>Esquimalt Graving Dock, British Columbia.</i>					
J. A. Gould	Dockmaster.	Esquimalt.	June 30, 1906	\$ 133 33 a month.	
John Jeffcott.	Engineer.	"	Jan. 1, 1901	100 00 "	
F. N. Jones	Assistant engineer.	"	Aug. 1, 1897	80 00 "	
A. D. Grievess.	Carpenter.	"	Dec. 1, 1887	80 00 "	
J. A. Maltravers.	Labourer.	"	July 1, 1906	50 00 "	
J. Stock.	"	"	" 1, 1894	50 00 "	
Chas. Jordan.	Stoker.	"	" 1, 1901	60 00 "	
G. Springer.	"	"	Apr. 1, 1903	60 00 "	
J. Young.	Night watchman.	"	June 1, 1903	50 00 "	
<i>Levis Graving Dock.</i>					
Alf. Samson.	Dockmaster.	Levis.	Feb. 15, 1900	1,000 00 a year.	
W. Macdougall.	Mechanical engineer.	"	June 1, 1888	75 00 a month.	
T. Després.	Asst. mechanical engineer.	"	July 21, 1901	60 00 "	
Narcisse Lemelin.	Fireman.	"	June 1, 1888	40 00 "	
<i>Kingston Graving Dock.</i>					
F. S. Rees.	Dockmaster.	Kingston.	Apr. 1, 1897	1,000 00 a year.	
James Gille.	1st engineer.	"	Nov. 1, 1905	75 00 a month.	
W. McGeehan.	Fireman.	"	" 1, 1892	45 00 "	
C. Staley.	Watchman.	"	" 1, 1892	45 00 "	

JOS. VINCENT.

LIST

OF

ENGINEERS, ENGINEMEN, FIREMEN AND CARETAKERS

EMPLOYED IN THE

PUBLIC BUILDINGS THROUGHOUT THE DOMINION ON MARCH 31, 1907

DATES OF APPOINTMENT, SALARIES, ETC.

SESSIONAL PAPER No. 19

Chatham...	N.B.	Post office	C. Johnston...	May 18, 1856	Caretaker	Mar. 27, 1895	25 00	12 months.	300 00
Carton, St. John...	"	"	S. Clark...	Mar. 12, 1850	"	Oct. 28, 1905	8 33	12 "	100 00
Carton, St. John...	"	"	Wm. Gould...	Mar. 12, 1850	"	Nov. 26, 1900	33 33	12 "	400 00
Carton, St. John...	"	"	Wm. Gould...	Jan. 15, 1843	"	Jan. 26, 1900	33 33	12 "	400 00
Carton, St. John...	"	"	G. W. Foster...	Feb. 2, 1836	"	Dec. 23, 1903	12 50	12 "	400 00
Carton, St. John...	"	"	F. B. Hicks...	Jan. 11, 1832	"	Jan. 11, 1886	33 33	12 "	400 00
Carton, St. John...	"	"	Patrick Keating...	Mar. 13, 1840	"	Oct. 23, 1886	33 33	12 "	400 00
Carton, St. John...	"	"	J. Murray...	Aug. 16, 1839	"	Feb. 1, 1904	33 33	12 "	400 00
Carton, St. John...	"	"	Neil J. Morrison...	July 25, 1858	Eng. & caretaker	Oct. 27, 1894	60 00	12 "	720 00
Carton, St. John...	"	"	Christopher White...	Nov. 20, 1844	"	Nov. 9, 1885	50 00	12 "	600 00
Carton, St. John...	"	"	James A. Paul...	Aug. 10, 1837	Caretaker...	Dec. 1, 1891	41 67	12 "	500 00
Carton, St. John...	"	"	James Wolfe...	Mar. 10, 1850	Engineer...	Oct. 1, 1893	55 00	12 "	600 00
Carton, St. John...	"	"	Edward Hare...	Feb. 22, 1830	Host attendant	Nov. 27, 1882	30 00	12 "	400 00
Carton, St. John...	"	"	Samuel Taylor...	Apr. 21, 1840	Caretaker	Nov. 27, 1882	33 33	12 "	400 00
Carton, St. John...	"	"	Mrs. N. Dryden...	June 21, 1839	"	Mar. 20, 1901	25 00	12 "	300 00
Carton, St. John...	"	"	Charles Traton...	Jan. 20, 1839	"	May 1, 1897	33 33	12 "	400 00
Carton, St. John...	"	"	A. W. Field...	Mar. 25, 1872	Fireman...	Oct. 11, 1906	50 00	12 "	600 00
Carton, St. John...	"	"	V. Lapointe...	Dec. 27, 1859	"	Oct. 11, 1906	50 00	12 "	600 00
Carton, St. John...	"	"	A. Bourgeau...	Jan. 23, 1870	Caretaker	Jan. 9, 1906	8 33	12 "	100 00
Carton, St. John...	"	"	T. F. Bisson...	May 23, 1848	"	Apr. 3, 1903	10 00	12 "	120 00
Carton, St. John...	"	"	Isabel Baldwin...	Nov. 16, 1839	"	June 27, 1889	33 33	12 "	400 00
Carton, St. John...	"	"	A. Farré...	Apr. 27, 1842	"	June 27, 1889	33 33	12 "	400 00
Carton, St. John...	"	"	W. Delanger...	Jan. 15, 1877	"	Jan. 30, 1906	8 33	12 "	100 00
Carton, St. John...	"	"	W. A. Beuchemin...	May 1, 1862	"	May 12, 1903	25 00	12 "	300 00
Carton, St. John...	"	"	J. H. Brown...	Oct. 7, 1851	"	Mar. 27, 1902	16 66	12 "	200 00
Carton, St. John...	"	"	J. T. Madore...	Dec. 1, 1843	"	Mar. 27, 1902	12 50	12 "	150 00
Carton, St. John...	"	"	A. Ratel...	Sept. 7, 1846	"	Sept. 1, 1897	33 33	12 "	400 00
Carton, St. John...	"	"	P. O. Robert...	Nov. 11, 1869	"	Jan. 26, 1899	8 33	12 "	100 00
Carton, St. John...	"	"	Jos. Brisson...	Dec. 8, 1850	"	Nov. 22, 1901	12 50	12 "	150 00
Carton, St. John...	"	"	E. Abour...	May 12, 1856	"	July 1, 1904	20 00	12 "	240 00
Carton, St. John...	"	"	F. N. Maillet...	May 6, 1845	Foreman engineer	Mar. 16, 1906	25 00	12 "	300 00
Carton, St. John...	"	"	T. Murphy...	Feb. 18, 1848	Caretaker...	Mar. 2, 1903	100 00	12 "	1,200 00
Carton, St. John...	"	"	M. Beyer...	Feb. 18, 1848	"	Dec. 4, 1882	40 67	12 "	500 00
Carton, St. John...	"	"	Art. Lesieur...	June 22, 1868	Caretaker...	Apr. 8, 1905	45 00	12 "	500 00
Carton, St. John...	"	"	Jos. Langevin...	May 15, 1871	Fireman...	Nov. 2, 1904	50 00	12 "	600 00
Carton, St. John...	"	"	A. Nuttall...	Mar. 10, 1850	"	Oct. 18, 1904	50 00	12 "	600 00
Carton, St. John...	"	"	M. Paisley...	July 15, 1872	Electrician...	June 1, 1905	2 50	Per day	8 months.
Carton, St. John...	"	"	J. B. Desjardins...	Mar. 7, 1854	Night fireman...	Nov. 15, 1906	50 00	12 "	480 00
Carton, St. John...	"	"	P. Fruchomme...	May 12, 1853	Hoist attendant	Jan. 31, 1907	90 00	12 "	720 00
Carton, St. John...	"	"	G. Laballe...	June 15, 1873	Cleaner...	Jan. 31, 1907	45 00	12 "	540 00
Carton, St. John...	"	"	S. McGarry...	June 15, 1873	Hoist attendant	Mar. 10, 1906	50 00	12 "	600 00
Carton, St. John...	"	"	J. Neville...	Mar. 18, 1870	"	Sept. 12, 1904	50 00	12 "	600 00
Carton, St. John...	"	"	H. Marchand...	Sept. 18, 1849	"	" 12, 1904	50 00	12 "	600 00
Carton, St. John...	"	"	A. Drouin...	June 14, 1868	"	Dec. 2, 1888	50 00	12 "	600 00
Carton, St. John...	"	"	Ad. Desjardins...	Sept. 3, 1859	Cleaner...	Nov. 28, 1904	50 00	12 "	600 00
Carton, St. John...	"	"	F. Nadon...	June 15, 1847	"	June 30, 1905	45 00	12 "	540 00
Carton, St. John...	"	"	N. Bissonnette...	Oct. 4, 1837	Night fireman...	Dec. 15, 1907	50 00	12 "	576 00
Carton, St. John...	"	"	L. G. Gault...	Jan. 18, 1859	Engineer...	May 19, 1907	60 00	12 "	720 00
Carton, St. John...	"	"	F. X. Leblond...	Jan. 22, 1863	Ass. electrician	Jan. 1, 1885	70 00	12 "	840 00
Carton, St. John...	"	"	I. Trudeau...	Feb. 19, 1862	"	Dec. 15, 1905	55 00	12 "	660 00
Carton, St. John...	"	"	Oscar Renaud...	July 25, 1867	Plasterer man	Sept. 10, 1898	50 00	12 "	600 00
Carton, St. John...	"	"	Art. Forget...	Dec. 29, 1854	"	Dec. 15, 1893	50 00	12 "	600 00
Carton, St. John...	"	"	L. Forget...	Dec. 29, 1854	"	Sept. 1, 1901	50 00	12 "	600 00

7-8 EDWARD VII., A. 1908

STATEMENT showing the Names, &c., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1907.—Continued.

Place.	Building.	Name.	Date of Birth.	Position.	Date of Appointment.	Monthly Salary.	Time Employed each Year.	Yearly Salary.
						\$ cts.		\$ cts.
Montreal.....	Post office.	A. Bourassa.....	June 1, 1857	Freight hoist att.	Aug. 4, 1892	50 00	12 months....	600 00
"	"	C. Berthiaume.....	Nov. 8, 1870	Night watchman	May 5, 1906	50 00	12 "	600 00
"	"	O. de Ladraultaye.....	"	Pass. hoist att.	Apr. 26, 1906	50 00	12 "	600 00
"	"	C. Vadeboncoeur.....	May 17, 1842	Freight hoist att.	Feb. 6, 1864	50 00	12 "	600 00
"	"	J. Vutrisac.....	Feb. 2, 1863	Messenger	Dec. 15, 1893	2 00 p.d.	12 "	730 00
"	Inland revenue.	Louis St. Jean.....	Sept. 17, 1840	Fireman	"	50 00	12 "	600 00
"	Custom house.	C. Daudelin.....	June 16, 1843	Caretaker	July 16, 1892	37 50	12 "	450 00
"	"	H. Valiquette.....	Dec. 30, 1871	Carpeniter	Feb. 1, 1903	65 00	12 "	780 00
"	Custom house and ex. ward.	B. Plannigan.....	May 23, 1802	Fireman	Sept. 13, 1906	65 00	12 "	780 00
"	Drill hall.	D. Lejeunesse.....	Nov. 20, 1867	Fireman	Feb. 24, 1906	50 00	12 "	600 00
"	Drill hall.	A. Gauthier.....	June 20, 1867	Fireman	Feb. 14, 1896	50 00	12 "	600 00
Quebec.....	Examining warehouse.	D. P. Kennedy.....	June 24, 1884	Engineer	Nov. 1, 1904	50 00	8 "	400 00
"	"	J. G. McLaughlin.....	Feb. 9, 1865	Fireman	Nov. 1, 1904	75 00	12 "	900 00
"	Culbers office.	James O'Neil.....	Nov. 15, 1890	Fireman	July 4, 1906	53 33	12 "	640 00
"	Custom office.	John R. Mountain.....	Aug. 15, 1861	"	Aug. 1, 1894	45 00	12 "	540 00
"	Post office.	F. J. Roy.....	Nov. 1, 1848	Caretaker	Nov. 10, 1888	45 00	12 "	540 00
"	"	"	Feb. 25, 1836	Fireman	Sept. 1, 1897	58 33	12 "	700 00
"	"	"	July 8, 1858	Fireman	June 23, 1895	55 00	12 "	660 00
"	Governor General Quarters.	E. Lewis.....	May 6, 1871	Caretaker	Sept. 1, 1905	1 50 p.d.	12 "	347 50
"	Immigration building.	J. B. Charbonneau.....	Dec. 12, 1864	"	Nov. 20, 1902	25 00	12 "	300 00
"	Post office.	A. Lepage.....	Feb. 17, 1866	"	Jan. 1, 1901	12 50	12 "	150 00
"	Public building.	H. Desmarais.....	July 14, 1869	"	May 7, 1898	25 00	12 "	300 00
"	Post office.	C. Desve.....	Aug. 6, 1848	"	Apr. 2, 1897	33 33	12 "	400 00
"	Public building.	C. Robitaille.....	Jan. 22, 1848	"	Mar. 4, 1895	33 33	12 "	400 00
"	Public building.	A. C. A. Bissonnette.....	May 25, 1858	"	Aug. 2, 1905	33 33	12 "	400 00
"	Inland revenue.	J. Grouard.....	Sept. 16, 1838	Fireman	Aug. 4, 1895	33 33	12 "	400 00
"	Drill hall.	E. Chapin.....	Apr. 9, 1844	Caretaker	July 19, 1906	30 00	12 "	360 00
"	Post office.	J. B. Yvon.....	Jan. 4, 1837	"	Dec. 17, 1906	30 00	12 "	360 00
"	Post office.	J. B. Yvon.....	Oct. 21, 1859	"	Sept. 1, 1907	33 33	12 "	400 00
"	Post office.	M. A. Campeau.....	Mar. 6, 1846	"	May 28, 1905	33 33	12 "	400 00
"	Post office.	N. Sasseville.....	Jan. 29, 1844	"	Jan. 2, 1905	25 00	12 "	300 00
"	Post office.	Ph. Gravelle.....	Dec. 22, 1859	"	July 1, 1905	12 50	12 "	150 00
"	Custom house.	A. Gauthier.....	June 3, 1828	"	Feb. 1, 1891	25 00	12 "	300 00
"	Drill hall.	A. Pothier.....	Feb. 4, 1850	Fireman	Mar. 20, 1907	33 33	12 "	400 00
"	Public building.	J. B. Laniel.....	Sept. 25, 1867	"	Feb. 13, 1905	33 33	12 "	400 00
"	"	G. Beaudet.....	Feb. 20, 1862	"	Oct. 6, 1904	33 33	12 "	400 00
"	"	D. K. McDonald.....	July 4, 1847	Caretaker	Mar. 17, 1906	33 33	12 "	400 00
Ont.								
Saint John's.....	Public building.	"	"	"	"	33 33	12 "	400 00
St. John's.....	Inland revenue.	"	"	"	"	33 33	12 "	400 00
St. Louis du Mile End	Drill hall.	"	"	"	"	30 00	12 "	360 00
Terrebonne.....	Post office.	"	"	"	"	33 33	12 "	400 00
Thetford Mines.....	Post office.	"	"	"	"	33 33	12 "	400 00
Three Rivers.....	Post office.	"	"	"	"	25 00	12 "	300 00
"	Custom house.	"	"	"	"	12 50	12 "	150 00
"	Post office.	"	"	"	"	25 00	12 "	300 00
Valleyfield.....	Drill hall.	"	"	"	"	33 33	12 "	400 00
Victoriaville.....	Public building.	"	"	"	"	33 33	12 "	400 00
Alexandria.....	"	"	"	"	"	33 33	12 "	400 00

7-8 EDWARD VII., A. 1908

STATEMENT showing the Names, &c., of the Engineers, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1907.—*Concluded.*

Place.	Building.	Name.	Date of Birth.	Position.	Date of Appointment.	Monthly Salary.	Time Employed each Year.	Yearly Salary.
						\$ cts.		\$ cts.
Rat Portage..... Ont.	Public building.....	Mrs. J. Link.....	May 10, 1850	Caretaker.....	Dec. 7, 1901	33 33	12 months.....	400 00
Sarnia..... " "	"	J. Dyble.....	Aug. 23, 1890	"	Nov. 7, 1903	33 33	12 " "	400 00
Smith's Falls..... " "	Post office, &c.....	J. W. Murray.....	July 29, 1850	Engineer.....	Jan. 28, 1906	50 00	12 " "	600 00
St. Catharines..... " "	Public building.....	J. A. Carey.....	Sept. 25, 1865	Fireman.....	" 24, 1907	50 00	12 " "	600 00
Sault Ste. Marie..... " "	Armouries.....	J. J. Racine.....	Sept. 25, 1865	Caretaker.....	Sept. 29, 1905	33 33	12 " "	400 00
St. Catharines..... " "	Post office, &c.....	T. Murday.....	Mar. 20, 1840	Engineer.....	Feb. 2, 1907	50 00	12 " "	600 00
St. Thomas..... " "	Public building.....	G. Luton.....	Sept. 14, 1850	Caretaker.....	Dec. 12, 1904	33 33	12 " "	400 00
St. Catharines..... " "	Public building.....	Wm. J. Johnston.....	Apr. 12, 1840	"	Apr. 14, 1903	33 33	12 " "	400 00
St. Catharines..... " "	Dominion buildings.....	J. Hamilton.....	Apr. 12, 1858	Foreman, engineer.....	Oct. 25, 1890	100 00	12 " "	1,200 00
Trenton..... " "	Indian revenue building.....	C. H. Farnham.....	Sept. 22, 1858	Fireman.....	Apr. 10, 1902	55 00	12 " "	660 00
Windsor..... " "	Customs house.....	U. Drinkwater.....	Sept. 22, 1874	"	Oct. 13, 1901	55 00	12 " "	660 00
Windsor..... " "	"	E. J. Switzer.....	Oct. 10, 1856	Hoist attendant.....	Aug. 18, 1901	55 00	12 " "	660 00
Windsor..... " "	Examining warehouse.....	T. J. Enright.....	Oct. 10, 1862	Caretaker.....	Dec. 18, 1906	50 00	12 " "	600 00
Windsor..... " "	"	James Cosgrove.....	Feb. 10, 1844	Engineer.....	" 28, 1874	70 00	12 " "	840 00
Windsor..... " "	"	E. J. Appleton.....	Sept. 26, 1864	Fireman.....	Sept. 23, 1886	60 00	12 " "	720 00
Windsor..... " "	"	Alexander Day.....	Sept. 27, 1863	Hoist attendant.....	Dec. 1, 1887	50 00	12 " "	600 00
Windsor..... " "	"	F. Simpson.....	Jan. 8, 1859	"	Sept. 1, 1903	50 00	12 " "	600 00
Windsor..... " "	"	Thos. Jones.....	Nov. 10, 1853	Watchman.....	Sept. 4, 1902	50 00	12 " "	600 00
Windsor..... " "	"	W. G. Smith.....	" 26, 1872	Hoist attendant.....	Apr. 17, 1901	50 00	12 " "	600 00
Windsor..... " "	Union station.....	J. Gurnally.....	Sept. 16, 1868	Elevatorman.....	Sept. 28, 1905	50 00	12 " "	600 00
Windsor..... " "	P. O. station.....	W. P. Murphy.....	Feb. 17, 1864	Caretaker.....	Jan. 12, 1904	41 66	12 " "	500 00
Windsor..... " "	Post office.....	J. Somers.....	Apr. 8, 1835	Engineer.....	Oct. 9, 1897	55 00	12 " "	660 00
Windsor..... " "	"	P. Cassidy.....	May 2, 1862	Fireman.....	May 8, 1905	55 00	8 " "	440 00
Windsor..... " "	"	L. Letray.....	" 1858	"	Jan. 10, 1907	55 00	8 " "	440 00
Windsor..... " "	Post office.....	W. J. Graham.....	Mar. 16, 1840	Fireman.....	Oct. 1, 1896	55 00	12 " "	720 00
Windsor..... " "	Drill hall.....	P. Devins.....	July 18, 1847	Caretaker.....	Feb. 3, 1905	35 33	12 " "	400 00
Windsor..... " "	"	D. W. Byrne.....	Aug. 11, 1867	Fireman.....	Feb. 25, 1905	55 00	12 " "	660 00
Windsor..... " "	"	D. Glendon.....	Aug. 8, 1867	"	Oct. 29, 1898	60 00	12 " "	720 00
Windsor..... " "	Public building.....	David Allan.....	May 13, 1861	Caretaker.....	Aug. 31, 1889	33 33	12 " "	400 00
Windsor..... " "	Post office.....	Mrs. T. Gibson.....	Jan. 21, 1861	"	May 12, 1905	33 33	12 " "	400 00
Windsor..... " "	"	L. Belleperche.....	Oct. 26, 1848	Engineer.....	Dec. 24, 1897	50 00	12 " "	600 00
Windsor..... " "	Drill hall.....	W. Curtis.....	Mar. 6, 1844	Caretaker.....	Nov. 9, 1880	33 33	12 " "	400 00
Windsor..... " "	Public building.....	P. Wheeler.....	Sept. 27, 1874	Engineer.....	Jan. 9, 1905	50 00	12 " "	600 00
Windsor..... " "	"	P. Fisher.....	Dec. 12, 1832	Caretaker.....	Nov. 19, 1906	16 33	12 " "	200 00
Windsor..... " "	"	George Kerr.....	June 6, 1841	Engineer.....	Dec. 11, 1897	33 33	12 months.....	400 00
Windsor..... " "	"	J. S. Teifer.....	July 25, 1840	"	Dec. 1, 1901	50 00	12 " "	600 00
Windsor..... " "	Post office.....	Jos. Hay.....	May 4, 1853	Engineer.....	July 20, 1905	45 00	12 " "	540 00
Windsor..... " "	"	Jos. Bogdans.....	July 10, 1857	Fireman.....	June 27, 1906	65 12	12 " "	780 00

SESSIONAL PAPER No. 19

Winnipeg	Man.	Post office	Joséph. Coutu	May 10, 1843	Mar. 16, 1887	55 00	12 months	660 00
"	"	"	A. Bouteau	Sept. 23, 1860	Apr. 4, 1905	55 00	12 "	660 00
"	"	"	P. Johnson	May 31, 1881	Oct. 1, 1904	50 00	12 "	600 00
"	"	"	G. K. Williams	Apr. 15, 1884	Apr. 4, 1904	45 00	12 "	540 00
Calgary	Alta.	Custom house	"	June 4, 1897	Sept. 1, 1906	65 00	12 "	780 00
Edmonton	"	Post office	E. W. Brown	Mar. 4, 1897	Jan. 21, 1891	45 00	12 "	540 00
"	"	Land and registry office	R. Wyllie	July 7, 1859	June 9, 1907	2 00	12 "	500 00
"	"	"	E. G. Henry	Aug. 4, 1854	Dec. 17, 1905	40 00	12 "	500 00
Lethbridge	"	Public building	D. Pelletier	July 4, 1854	Sept. 21, 1906	50 00	12 "	600 00
"	"	"	R. West	Sept. 12, 1855	Jan. 1, 1904	33 33	12 "	400 00
Moos Jaw	Sask.	Land and registry office	Mme G. Cassie	Aug. 18, 1877	May 15, 1906	50 00	12 "	600 00
Prince Albert	"	Public building	R. D. Robertson	July 22, 1863	May 6, 1901	50 00	12 "	600 00
Regina	"	Land office	W. J. Gore	July 22, 1863	Sept. 24, 1906	50 00	12 "	600 00
"	"	"	I. Perkins	Nov. 9, 1857	June 26, 1901	50 00	12 "	600 00
"	"	Post office	J. Macdonald	Jan. 6, 1859	Sept. 14, 1897	12 50	12 "	150 00
Atlin	B. C.	Public building	J. R. McNabb	Sept. 6, 1872	May 1, 1906	50 00	12 "	600 00
Kamloops	"	Post office	J. Thompson	Sept. 9, 1876	May 9, 1903	50 00	12 "	600 00
Nanaimo	"	Public building	B. B. Smith	" 12, 1845	July 11, 1906	50 00	12 "	600 00
Nelson	"	"	L. Thornbar	" 4, 1846	Aug. 1, 1906	50 00	12 "	600 00
New Westminster	"	Post office	H. McQuade	Dec. 24, 1851	Oct. 1, 1903	50 00	12 "	600 00
Roseland	"	Public building	A. Chisholm	Apr. 18, 1851	Feb. 10, 1901	50 00	12 "	600 00
Vancouver	"	"	P. Powers	Mar. 21, 1836	July 7, 1904	50 00	12 "	600 00
"	"	"	C. F. Bosomworth	Oct. 1, 1848	Feb. 4, 1898	50 00	12 "	600 00
Victoria	"	New Dominion building	Wm. McKay	Dec. 31, 1857	Apr. 1, 1899	45 00	12 "	540 00
"	"	Dominion building	A. Johnson	May 12, 1858	Nov. 27, 1905	40 00	12 "	500 00
"	"	"	J. Campbell	July 8, 1876	June 1, 1905	60 00	12 "	720 00
"	"	"	J. McMillan	Feb. 10, 1867	May 8, 1902	60 00	12 "	720 00
"	"	"	Jas. Parfitt	" 12, 1843	Jan. 1, 1902	100 00	12 "	1,200 00
Old custom house	"	"	Geo. Lyall	Aug. 18, 1873	Oct. 17, 1904	100 00	12 "	1,200 00
Post office	"	"	J. W. Wilson	Apr. 17, 1883	Nov. 1, 1905	150 00	12 "	1,800 00
"	"	"	Mrs. McKenzie	Apr. 2, 1878	Dec. 1, 1901	160 00	12 "	1,920 00
Administration building	"	"	J. H. Mulligan	Sept. 9, 1865	Dec. 1, 1901	160 00	12 "	1,920 00
"	"	"	J. Boutin	Oct. 13, 1876	Jan. 1, 1901	160 00	12 "	1,920 00
"	"	"	Mrs. A. Misner	Sept. 6, 1860	Feb. 18, 1903	150 00	12 "	1,800 00
Government house	"	"	Mrs. F. Macdonald	July 12, 1865	Dec. 1, 1905	160 00	12 "	1,920 00
Police court	"	"	P. P. McDougal	Oct. 8, 1874	May 21, 1902	160 00	12 "	1,920 00
Court house	"	"	J. B. Deslauriers	July 12, 1875	Oct. 30, 1902	125 00	12 "	1,500 00
"	"	"	H. DeVillers	May 7, 1872	"	"	"	"
Public building	"	"	C. J. McLeannan	Dec. 22, 1850	"	"	"	"

JOS. VINCENT.

OFFICIAL CORRESPONDENCE

DEPARTMENT OF PUBLIC WORKS

FROM

JULY 1, 1867, TO MARCH, 31, 1907

OFFICIAL CORRESPONDENCE.

LETTERS Received and Sent from July 1, 1867, to March 31, 1907.

Year.		Received.	Sent.
1867—From	July 1 to December 31.....	2,075	1,511
1868	“ January 1 to December 31.....	3,498	2,317
1869	“ “ “ “.....	3,448	2,171
1870	“ “ “ “.....	4,961	3,185
1871	“ “ “ “.....	6,268	3,983
1872	“ “ “ “.....	8,333	4,428
1873	“ “ “ “.....	10,072	5,707
1874	“ “ “ “.....	9,800	5,043
1875	“ “ “ “.....	9,006	5,006
1876	“ “ “ “.....	7,971	4,773
1877	“ “ “ “.....	7,517	4,425
1878	“ “ “ “.....	6,886	4,021
1879	“ “ “ “.....	7,186	4,547
1879	“ “ to October 6.....	2,033	810
1880	“ “ October 7 to December 31.....	8,451	4,411
1881	“ “ January 1 “ “.....	9,599	5,529
1882	“ “ “ “.....	10,505	5,699
1883	“ “ “ “.....	11,633	6,227
1884	“ “ “ “.....	13,114	6,903
1885	“ “ “ “.....	8,977	5,321
1886	“ “ “ “.....	9,644	5,352
1887	“ “ “ “.....	4,866	2,735
1887	“ “ July 1 “ “ 1888.....	10,493	6,343
1888	“ “ “ “ 1889.....	10,522	7,042
1889	“ “ “ “ 1890.....	10,098	7,448
1890	“ “ “ “ 1891.....	10,576	7,286
1891	“ “ “ “ 1892.....	11,637	6,700
1892	“ “ “ “ 1893.....	11,720	6,220
1893	“ “ “ “ 1894.....	9,517	6,028
1894	“ “ “ “ 1895.....	10,190	5,148
1895	“ “ “ “ 1896.....	10,223	5,573
1896	“ “ “ “ 1897.....	11,404	5,033
1897	“ “ “ “ 1898.....	9,640	5,250
1898	“ “ “ “ 1899.....	9,639	4,784
1899	“ “ “ “ 1900.....	12,139	5,938
1900	“ “ “ “ 1901.....	13,179	6,255
1901	“ “ “ “ 1902.....	15,880	5,067
1902	“ “ “ “ 1903.....	13,140	6,373
1903	“ “ “ “ 1904.....	11,300	5,878
1904	“ “ “ “ 1905.....	11,940	6,461
1905	“ “ “ “ 1906.....	11,700	6,472
1906	“ “ “ to March 31, 1907.....	9,400	5,085

7-8 EDWARD VII., A. 1908

LETTERS Sent from Chief Engineer's Office, from January 1880, to March 31, 1907.

Year.		Number.
1880.....	From January 10 to June 30.....	418
1880.....	July 1.....	1,795
1881.....	" " " 1881.....	2,352
1882.....	" " " 1882.....	2,651
1883.....	" " " 1883.....	3,611
1884.....	" " " 1884.....	3,119
1885.....	" " " 1885.....	2,867
1886.....	" " " 1886.....	3,281
1887.....	" " " 1887.....	3,552
1888.....	" " " 1888.....	4,229
1889.....	" " " 1889.....	3,374
1890.....	" " " 1890.....	3,948
1891.....	" " " 1891.....	4,009
1892.....	" " " 1892.....	4,232
1893.....	" " " 1893.....	3,966
1894.....	" " " 1894.....	4,603
1895.....	" " " 1895.....	4,239
1896.....	" " " 1896.....	4,994
1897.....	" " " 1897.....	4,696
1898.....	" " " 1898.....	5,277
1899.....	" " " 1899.....	7,366
1900.....	" " " 1900.....	4,341
1901.....	" " " 1901.....	6,759
1902.....	" " " 1902.....	4,327
1903.....	" " " 1903.....	5,295
1904.....	" " " 1904.....	5,496
1905.....	" " " 1905.....	8,036
1906.....	" " " 1906.....	3,771
	to March 31, 1907.....	

NOTE.—The letters, including returns, received in the Chief Engineer's Office may be estimated at the rate of two received to one sent.

LETTERS Received and Sent, Chief Architect's Office, from January 1, 1880, to March 31, 1907.

	Received.	Sent.
1880—From January 1 to June 30.....		1,273
1880.....		2,943
1881.....		2,859
1882.....	3,538	4,600
1883.....	3,860	6,004
1884.....	4,500	6,718
1885.....	6,075	6,450
1886.....	6,816	6,380
1887.....	6,947	6,870
1888.....	6,484	7,667
1889.....	7,448	6,575
1890.....		7,751
1891.....	6,113	4,260
1892.....	7,428	6,453
1893.....	6,900	4,517
1894.....	7,538	5,327
1895.....	7,843	5,783
1896.....	10,700	8,200
1897.....	10,867	8,547
1898.....	10,913	8,762
1899.....	12,386	9,878
1900.....	12,287	9,860
1901.....	12,560	10,330
1902.....	13,430	11,106
1903.....	14,710	15,590
1904.....	15,000	14,300
1905.....	15,785	14,785
1906.....	13,768	12,087
to March 31, 1907.....		